Repsol, S.A. and investees comprising the Repsol Group

Auditor's report,
Consolidated financial statements at 31 December 2021
Consolidated management report

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 31 December 2021, and the income statement, statement of recognized profit or loss, statement of changes in equity, statement of cash flows 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 31 December 2021, 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.

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Key audit matters	How the matter was addressed in the audit

Evaluation of the recoverability of the carrying value of the Group's intangible assets, property, plant and equipment and joint ventures, considering the impacts of the energy transition and climate change.

At 31 December 2021, the accompanying consolidated financial statements present intangible assets (including goodwill) and property, plant and equipment amounting to €3,497 million (note 11) and €21,726 million (note 12), respectively.

These assets are allocated to cash-generating units (CGUs) as indicated in notes 3.6 and 21 to the accompanying consolidated financial statements.

In addition, as disclosed in note 13, the Group has joint ventures with a carrying value at year-end 2021 amounting to €3,349 million.

The Group performs an annual impairment analysis of these assets by CGU, in accordance with the methodology and key assumptions set out in notes 3.6 and 21, and determines the recoverable amount of their carrying value based on the present value of the future cash flows generated by these assets, based on the Strategic Plan 2021-2025, approved by management, prepared in line with the energy transition and economy decarbonisation objectives.

In this context, and in view of the rising prices in the commodities markets, the Group has estimated the price paths of oil, natural gas, CO_2 allowances and certificates, and electricity, considering scenarios consistent with its strategy to become a zero net emissions company by 2050, the outlook for economic recovery after the COVID-19 pandemic and the energy transition policies in China, the United States and the European Union (notes 3.6, 21 and 30).

In addition, when preparing the disclosures relating to climate change and energy transition and their impact on the impairment analyses, management has taken into account, as described in notes 1 and 30, the recommendations of the Task Force on Climate related Financial Disclosure (TCFD) and the IASB publication "Effects of climate related matters on financial statements".

Firstly, we have obtained an understanding of the Repsol Group's commitments to energy transition and climate change, with the help of our specialists, through interviews with management and an analysis of Repsol Group public information on these commitments (Strategic Plan 2021-2025, documentation published on Low Carbon Day, Consolidated Management Report, Statement of Non-Financial Information, Prospectus for debt issues in 2021), as well as through the analysis and evaluation of these commitments in the strategic plans for the lines of business, particularly Exploration and Production and Refining in Spain.

We have also gained an understanding of the sector environment (price trends, presentations of results by other companies in the sector, analysts' reports, investors' expectations on climate change, etc.) to assess the alignment of the strategic priorities defined by the Group with the reality of the global hydrocarbon market.

We have also gained an understanding of both the methodology applied and the relevant controls the Group has in place for the asset recoverability analysis.

In addition, we have considered the appropriateness of asset allocations to the CGUs and the process for identifying those requiring an impairment assessment in accordance with the requirements of the applicable regulations.

With the assistance of our valuation experts, we have assessed the assumptions and key estimates used in the calculations, which include both short- and long-term estimates of the evolution of hydrocarbon prices, electricity and CO_2 allowances and certificates, estimated hydrocarbon reserves and resources, production profiles of hydrocarbon reserves and resources, refining margins, operating costs, investment requirements, projection period and discount rates.

Key audit matters	How the matter was addressed in the audit
Management has also performed a sensitivity analysis (note 21.2) of key assumptions which, based on historical experience, may reasonably be expected to change. As a result of the above analyses, Group management has recorded valuation adjustments, net of reversals, for the amounts indicated in note 21.1.c). This is a key matter because it involves the application of critical judgements and significant estimates by management, particularly in the Exploration and Production and Refining businesses in Spain (note 3.6) to the key assumptions used, which are affected by the assessment of climate change and energy transition impacts. These judgements and estimates are subject to uncertainty, and future changes in key assumptions could have a material impact on the Group's consolidated financial statements.	Specifically, in relation to the future prices of hydrocarbons, electricity and CO2 allowances and certificates, we have compared management's estimates with information released by investment banks, consulting firms and relevant industry organisations and agencies, and we have verified that they include scenarios for the energy transition and decarbonisation of the economy; in addition, we have assessed the consistency of these estimates against the objectives set by the Group in this area in its strategic plans. In relation to the estimate of hydrocarbon reserves and resources, we have gained an understanding of the process implemented by the Group for this purpose which includes the use of management experts, and have assessed the work results, competence, capability and objectivity of these experts. We have also checked the consistency of the volumes estimated by the management experts against the data used in determining the recoverable amount of the assets. Additionally, with respect to the Refining activities in Spain, we have analysed the estimate of the refining margin and demand for fossil fuels, and the consistency of the strategic plan for this line of business in the light of the dynamics of the energy transition. We have also checked the mathematical accuracy of the calculations and models prepared by management and have verified the recoverable amount calculated by the Group against the net carrying amount of the CGUs to assess whether or not any impairment or impairment reversal needs to be recognised. In addition, we have assessed the sensitivity calculations made by management. Finally, we have considered the sufficiency of the disclosures in the consolidated financial statements concerning the assessment of the recoverable amount of these assets and have assessed the consistency of the disclosures against the information included in the consolidated management report and the consolidated statement of non-financial information.

Key audit matters	How the matter was addressed in the audit
	Based on our procedures, we believe 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.
Assessment of the recoverability of the carrying amount of deferred tax assets	
As reflected in the accompanying consolidated balance sheet, at 31 December 2021 the balance in deferred tax assets amounted to €2.878 million, of which, as indicated in note 23.3 to the accompanying consolidated financial statements, tax losses, tax credits and similar benefits not yet used totalled €2,756 million. When assessing whether the amount recognised in the consolidated financial statements for these assets is recoverable, Group management considers, as indicated in note 23.3, the expected generation of future taxable profits based on the methodology defined to analyse the recovery of its assets, the assessment of the estimated results of each tax group or entity in accordance with the Group's strategic orientation, the applicable tax regulations and the term and time limit within which these assets may be recovered. As a result of the above analyses, Group management has reduced the amount of deferred tax assets recognised in the balance sheet by the amount indicated in notes 21.1 and 23.3. This is a key matter because of the nature and significance of the assets recognised and because it involves the application of significant estimates (notes 3.5 and 3.6) of future taxable profits, which affects the assessment of their recoverability.	Our analysis commenced with an understanding of both the methodology applied and the relevant controls the Group has in place for the recoverability analysis of these assets. We have also checked the consistency of the assumptions used by management in the financial projections used to determine future taxable profits against the assumptions used in the impairment testing of the Group's intangible and tangible assets. In addition, together with our tax experts, we have evaluated the corporate income tax estimate, mainly with regard to the suitability of the tax treatment of the transactions performed and the calculations of the deferred tax assets in the light of the applicable tax regulations. Finally, we assessed the sufficiency of the disclosures in the consolidated financial statements concerning the measurement and recognition of these assets. On the basis of our work, we believe that the assumptions and estimates made by Group management concerning the recoverability of the assets analysed are reasonable and consistent with the evidence obtained.
Evaluation of the recoverability of the Group's assets in Venezuela	
As disclosed in note 21.3 to the accompanying consolidated financial statements, the Group's financial exposure in Venezuela at 31 December 2021 amounted to €298 million. This amount mainly includes the USD financing granted by the Group to the joint ventures Cardon IV, S.A. and Petroquiriquire, S.A., amounting to €166 million (note 13) and €304 million (note 8), respectively, and trade receivables from Petróleos de Venezuela, S.A. (PDVSA) amounting to €344 million, which are recorded as Other non-current assets (note 14), less provisions for liabilities and charges amounting to €500 million (note 13).	Our analysis commenced with an understanding of the processes the Group has in place for performing the asset value analysis, including the relevant controls. With the collaboration of our team in Venezuela, we have gained an understanding of the political, social and economic situation in the country.

Key audit matters	How the matter was addressed in the audit
As detailed in note 21.3, the country's overall situation is affected by an economy in recession, a regulated exchange system, high levels of inflation and continuous devaluations of the local currency, an oil industry with high public sector intervention and participation whose output has been significantly reduced in recent years, political instability, a state of economic emergency and international sanctions, among other factors. Furthermore, except in the case of Quiriquire Gas, S.A., whose carrying value is zero, the functional currency of the investments in Venezuela is the US dollar, as indicated in note 21.3 to the accompanying consolidated financial statements. In the context described above, the Group has analysed the recoverability of its investments in Venezuela and the credit risk relating to the PDVSA receivables, recording an impairment of €352 million in the consolidated income statement, as detailed in note 21.3. To determine the expected loss associated with loans to the joint ventures and the PDVSA receivables, the Group has engaged an independent expert to validate management's judgements. This matter requires a high level of judgement and estimation (note 21.3) by management when assessing the recoverability of its assets in Venezuela and has therefore been considered as a key audit matter.	In relation to the financial information of the joint venture Cardón IV, S.A. included in the consolidated financial statements, we have assessed the competence and objectivity of this component's auditor and have obtained and evaluated the auditor's reports, including its overall findings, conclusions and opinion. We have also evaluated the financial information of the joint venture Petroquiriquire, S.A., which has been included in the Group's consolidated financial statements. In relation to the analysis of impairment losses on non-current assets in the above companies, we have performed audit procedures such as those described in the key audit matter *"Evaluation of the recoverability of the carrying value of the Group's intangible assets, property, plant and equipment and joint ventures, considering the impacts of the energy transition and climate change"* referred to above. We have also analysed the reasonableness of the provision for liabilities and charges. In addition, to analyse the credit risk of the loans granted to the joint ventures and the receivables from PDVSA, we have performed the following audit procedures, among others: • Obtaining and evaluating the loan agreements with Cardón IV, S.A. and Petroquiriquire, S.A., as well as other relevant contractual information. • Analysing the reasonableness of the expected loss model prepared by management. • We have analysed the information contained in the report of the independent expert engaged by the Group to assess management's judgements on the Venezuela credit risk and have assessed this expert's competence and objectivity, to satisfy ourselves that the expert was suitably qualified to carry out this assignment. Finally, we have assessed the sufficiency of the information disclosed in the consolidated financial statements regarding the situation in Venezuela, the Group's presence in that country and the assumptions underlying the measurement of these assets.

Key audit matters	How the matter was addressed in the audit
	On the basis of our work, we believe that the assumptions and estimates made by Group management concerning the recoverability of the assets analysed are reasonable and consistent with the evidence obtained.
Analysis of the effects of the partial arbitration award relating to the purchase of Talisman Energy UK Limited (TSEUK), currently Repsol Sinopec Resources UK Limited (RSRUK) As mentioned in note 15 of the accompanying notes to the consolidated accounts, Addax Petroleum UK Limited (Addax) and Sinopec International Petroleum Exploration and Production Corporation (Sinopec) filed a “Notice of arbitration” against Talisman Energy Inc. (currently Repsol Oil & Gas Canada Inc. – ROGCI) and Talisman Colombia Holdco Limited (TCHL) concerning the purchase of 49% of the shares in RSEUK during 2012 by Addax and Sinopec. This transaction took place prior to the acquisition of the Talisman group by the Repsol Group in 2015. The Court of Arbitration decided to split the proceedings into two phases: The first phase, concerning liability for the five issues in dispute (Reserves, Production, Abandonment, Projects and Maintenance), and the second phase in which the amount of any liability would be determined, given the case. On 29 January 2020, the Singapore court of arbitration issued a partial award, addressing only the Reserves issue. In this partial award, the Court of Arbitration decided that ROGCI and TCHL are liable towards Sinopec and Addax in respect of certain information and representations provided during the above-mentioned procurement process. On 28 April 2020, the Repsol Group challenged the partial award before the Singapore courts, estimating that the appeal for annulment would be resolved during the third quarter of 2022. As a result of this partial award, the Group recorded a provision in prior years. On 20 April 2021 the Court of Arbitration issued a new partial award, completing the liability phase, in which it found TCHL and ROGCI liable with respect to the Production issue and dismissed Addax and Sinopec's claims on the remaining issues. Following this award, which was also challenged by the Repsol Group, the arbitration process will continue via the quantification phase, in which a decision is not expected before the fourth quarter of 2023.	Our audit procedures in relation to this matter have included, among others, the following: • Meetings with Group management to understand their analysis and assessment of the risks underlying the arbitration awards. • Obtaining the assessment by the Group's external lawyers on the rating of the risks identified for the Repsol Group in the awards, and their implications. • In cooperation with our legal experts, we have analysed the documentation related to the award and assessed whether the risks identified therein by in-house and external lawyers are in line with its content. • Understanding and assessment of the methodology applied by the Group to quantify the risks arising from its analysis of the arbitration awards, as well as verification of whether the risks quantified by the Group are in line with those arising from the awards received. • Comparing the estimates made against the documentation included in the arbitration, and checking the mathematical accuracy of the calculations made by management. • Checking that the amounts recorded in the consolidated financial statements match the results of the calculations indicated above. • Assessing the sufficiency of the information disclosed in relation to this matter in the consolidated financial statements.

Key audit matters	How the matter was addressed in the audit
The partial award of 20 April 2021 provides a better basis for estimating the liability that could arise from this arbitration. Therefore, supported by its lawyers and external advisors, the Group has re-estimated the provision required to cover the risks of the arbitration process, reducing the provision recorded at year-end 2020, as indicated in note 15 of the accompanying consolidated financial statements. This is a key matter because it involves the application of critical judgements and significant estimates (notes 3.5 and 15.2) by management in the calculations made, which are subject to uncertainty, and due to the fact that any changes in the course of the above-mentioned arbitration could have a material impact on the Group's consolidated financial statements.	Based on our procedures, we believe that management's approach and conclusions, as well as the information disclosed in the accompanying consolidated financial statements, are consistent with the available evidence.

Other information: Consolidated management report

Other information comprises only the consolidated management report for the 2021 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 consolidated management report, in accordance with legislation governing the audit practice, is to:

a) Verify only that the consolidated statement of non-financial information, certain information included in the Annual Corporate Governance Report and the Annual Report on Directors' Remuneration, as referred to in the Auditing Act, has been provided in the manner required by applicable legislation and, if not, we are obliged to disclose that fact.

b) Evaluate and report on the consistency between the rest of the information included in the consolidated management report and the consolidated financial statements as a result of our knowledge of the Group obtained during the audit of the aforementioned financial statements, as well as to evaluate and report on whether the content and presentation of this part of the consolidated management report is in accordance with applicable regulations. If, based on the work we have performed, we conclude that material misstatements exist, 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 section a) above has been provided in the manner required by applicable legislation and that the rest of the information contained in the consolidated management report is consistent with that contained in the consolidated financial statements for the 2021 financial year, and its content and presentation are in accordance with applicable regulations.

Responsibility of the directors and the audit and control 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 IFRS-EU and other provisions of the financial reporting framework applicable to the Group in Spain, and for such internal control as the aforementioned directors determine is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

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 aforementioned directors either intend to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

The Parent company's audit and control 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 and 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.

We communicate with the Parent company's audit and control 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 and control committee with a statement that we have complied with relevant ethical requirements, including those relating to independence, and we communicate with the aforementioned 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 and control 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

European single electronic format

We have examined the digital files of the European single electronic format (ESEF) of Repsol, S.A. and investees comprising the Repsol Group for the financial year 2021 that comprise an XHTML file which includes the consolidated financial statements for the financial year and XBRL files with tagging performed by the entity, which will form part of the annual financial report.

The directors of Repsol, S.A. are responsible for presenting the annual financial report for financial year in accordance with the formatting and markup requirements established in the Delegated Regulation (EU) 2019/815 of 17 December 2018 of the European Commission (hereinafter the ESEF Regulation).

Our responsibility is to examine the digital files prepared by the Parent company's directors, in accordance with legislation governing the audit practice in Spain. This legislation requires that we plan and execute our audit procedures in order to verify whether the content of the consolidated financial statements included in the aforementioned digital files completely agrees with that of the consolidated financial statements that we have audited, and whether the format and markup of these accounts and of the aforementioned files has been affected, in all material respects, in accordance with the requirements established in the ESEF Regulation.

In our opinion, the digital files examined completely agree with the audited consolidated financial statements, and these are presented and have been marked up, in all material respects, in accordance with the requirements established in the ESEF Regulation.

Report to the audit and control committee of the Parent company

The opinion expressed in this report is consistent with the content of our additional report to the audit and control committee of the Parent company dated 17 February 2022.

Appointment period

The General Ordinary Shareholders' Meeting held on 26 March 2021 appointed us as auditors of the Group for a period of one year, for the year ended 31 December 2021.

Previously, we were appointed by resolution of the General Ordinary Shareholders' Meeting for a period of three years and we have audited the accounts continuously since the year ended 31 December 2018.

Services provided

Services provided to the Group for services other than the audit of the accounts are disclosed in note 31.2 to the consolidated financial statements.

PricewaterhouseCoopers Auditores, S.L. (S0242)

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Iñaki Goiriena Basualdu (16198)

17 February 2022

2021

REPSOL Group

Consolidated financial statements

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

The Repsol Commitment
Net Zero Emissions
by 2050

REPSOL

Repsol, S.A. and Investees comprising the Repsol Group
Balance sheet at December 31, 2021 and 2020

		€ Million	
ASSETS	Note	**12/31/2021**	**12/31/2020**
Intangible assets	11	3,497	3,353
Property, plant and equipment	12	21,726	20,927
Investments accounted for using the equity method	13	3,554	5,897
Non-current financial assets	8	1,249	916
Deferred tax assets	23	2,878	3,745
Other non-current assets	14	908	880
NON-CURRENT ASSETS		**33,812**	**35,718**
Non-current assets held for sale	16	605	5
Inventories	17	5,227	3,379
Trade and other receivables	18	8,238	4,056
Other current assets		326	239
Other current financial assets	8	2,451	1,584
Cash and cash equivalents	8	5,595	4,321
CURRENT ASSETS		**22,442**	**13,584**
TOTAL ASSETS		**56,254**	**49,302**

		€ Million	
EQUITY AND LIABILITIES	Note	**12/31/2021**	**12/31/2020**
Shareholders' equity		22,320	21,185
Other cumulative comprehensive income		94	(890)
Non-controlling interests		380	244
EQUITY	6	**22,794**	**20,539**
Non-current provisions	15	3,264	3,572
Non-current financial liabilities	7	10,185	12,123
Deferred tax liabilities and other tax items	23	2,022	2,142
Other non-current liabilities		671	407
NON-CURRENT LIABILITIES		**16,142**	**18,244**
Changes in ownership interest in companies without loss of control	16	460	—
Current provisions	15	1,024	740
Current financial liabilities	7	4,611	3,880
Trade and other payables	19	11,223	5,899
CURRENT LIABILITIES		**17,318**	**10,519**
TOTAL EQUITY AND LIABILITIES		**56,254**	**49,302**

Repsol, S.A. and Investees comprising the Repsol Group
Income statement for the years ending December 31, 2021 and 2020

	Note	2021	2020
		€ Million	
Sales		49,480	32,956
Income from services rendered and other income		265	326
Changes in inventories of finished goods and work in progress		759	(624)
Other operating income		1,666	985
Procurements		(37,448)	(24,835)
Amortization and depreciation of non-current assets		(2,004)	(2,207)
(Provision for)/Reversal of impairment provisions		(663)	(2,159)
Personnel expenses		(1,802)	(1,845)
Transport and freights		(1,103)	(1,272)
Supplies		(769)	(556)
Gains/(Losses) on disposal of assets		10	102
Other operating expenses		(4,634)	(3,425)
OPERATING INCOME / (LOSS)	**20**	**3,757**	**(2,554)**
Net interest		(152)	(244)
Change in fair value of financial instruments		644	(148)
Exchange gains/(losses)		(131)	406
Net impairment of financial instruments		27	57
Other financial income and expenses		(117)	(212)
FINANCIAL RESULT	22	271	(141)
NET INCOME FROM INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD [1]	13	301	(609)
NET INCOME / (LOSS) BEFORE TAX		**4,329**	**(3,304)**
Income tax	23	(1,801)	(16)
CONSOLIDATED NET INCOME / (LOSS) FOR THE PERIOD		**2,528**	**(3,320)**
NET INCOME / (LOSS) ATTRIBUTABLE TO NON-CONTROLLING INTERESTS		(29)	31
NET INCOME / (LOSS) ATTRIBUTABLE TO THE PARENT		**2,499**	**(3,289)**
EARNINGS PER SHARE ATTRIBUTABLE TO THE PARENT	24	**Euros / share**	
Basic		1.64	(2.13)
Diluted		1.64	(2.13)

[1] Net of taxes.

Repsol, S.A. and investees comprising the Repsol Group

Statement of recognized profit or loss corresponding to the years ending December 31, 2021 and 2020

	€ Million	
	2021	**2020**
CONSOLIDATED NET INCOME / (LOSS) FOR THE PERIOD	**2,528**	**(3,320)**
Due to actuarial gains and losses	7	(9)
Investments accounted for using the equity method	21	(11)
Equity instruments with changes through other comprehensive income	(1)	(27)
Tax effect	(8)	—
OTHER COMPREHENSIVE INCOME / (LOSS). ITEMS NOT RECLASSIFIABLE TO NET INCOME / (LOSS)	19	(47)
Cash flow hedging:	**133**	**58**
Valuation gains / (losses)	173	78
Amounts transferred to the income statement	(40)	(20)
Translation differences:	**820**	**(1,482)**
Valuation gains / (losses)	1,081	(1,445)
Amounts transferred to the income statement	(261)	(37)
Tax effect	34	(35)
OTHER COMPREHENSIVE INCOME / (LOSS). ITEMS RECLASSIFIABLE TO NET INCOME	987	(1,459)
TOTAL OTHER COMPREHENSIVE INCOME / (LOSS)	**1,006**	**(1,506)**
TOTAL COMPREHENSIVE INCOME / (LOSS) FOR THE PERIOD	**3,534**	**(4,826)**
a) Attributable to the parent	3,505	(4,792)
b) Attributable to non-controlling interests	29	(34)

Repsol S.A. and Investees comprising the Repsol Group

Statement of changes in equity corresponding to the years ending December 31, 2021 and 2020

	Equity attributable to the parent and other equity instrument holders							
	Shareholders' equity							
€ Million	Share capital	Share premium and reserves	Treasury shares and own equity investments	Net income for the period attributable to the parent	Other equity instruments	Other cumulative comprehensive income	Non-controlling interests	**Equity**
Closing balance at 12/31/2019	**1,566**	**26,731**	**(1,170)**	**(3,816)**	**1,024**	**593**	**281**	**25,209**
Total recognized income/(expenses)	**—**	**(20)**	**—**	**(3,289)**	**—**	**(1,483)**	**(34)**	**(4,826)**
Transactions with partners or owners:								–
Share capital increase/(reduction)	101	(101)	—	—	—	—	—	—
Dividends and shareholder remuneration	—	(338)	—	—	—	—	(1)	(339)
Transactions with treasury shares and own equity investments (net)	(99)	(1,267)	1,008	—	—	—	—	(358)
Other equity variations:	—	—	—	—	—	—	—	—
Transfers between equity-line items	—	(3,816)	—	3,816	—	—	—	—
Subordinated perpetual obligations	—	(54)	—	—	907	—	—	853
Other variations	—	(3)	—	—	5	—	(2)	—
Closing balance at 12/31/2020	**1,568**	**21,132**	**(162)**	**(3,289)**	**1,936**	**(890)**	**244**	**20,539**
Total recognized income/(expenses)	**—**	**20**	**—**	**2,499**	**—**	**986**	**29**	**3,534**
Transactions with partners or owners:								
Share capital increase/(reduction)	(41)	(386)	427	—	—	—	—	—
Dividends and shareholder remuneration	—	(916)	—	—	—	—	—	(916)
Transactions with treasury shares and own equity investments (net)	—	46	(906)	—	—	—	—	(860)
Increases/(reductions) due to changes in scope	—	115	—	—	—	—	104	219
Other equity variations:								
Transfers between equity-line items	—	(3,289)	—	3,289	—	—	—	—
Subordinated perpetual obligations	—	(63)	—	—	340	—	—	277
Other variations	—	(4)	—	—	4	(2)	3	1
Closing balance at 12/31/2021	**1,527**	**16,655**	**(641)**	**2,499**	**2,280**	**94**	**380**	**22,794**

Repsol S.A. and Investees comprising the Repsol Group

Statement of cash flows corresponding to the years ending December 31, 2021 and 2020

	Note	€ Million 2021	2020
Income before tax		**4,329**	**(3,304)**
Adjustments to income:		**2,390**	**5,074**
Amortization of non-current assets	11 and 12	2,004	2,207
Other (net)		386	2,867
Changes in working capital		(1,107)	1,000
Other cash flows from operating activities:		**(935)**	**(32)**
Dividends received		281	183
Income tax refunded/(paid)		(920)	100
Other proceeds from/(payments for) operating activities		(296)	(315)
CASH FLOWS FROM OPERATING ACTIVITIES	25	**4,677**	**2,738**
Payments for investments:	12 and 13	**(4,234)**	**(3,368)**
Group companies and associates		(539)	(132)
Property, plant and equipment, intangible assets and investment property		(1,902)	(1,886)
Other financial assets		(1,793)	(1,350)
Proceeds from divestments:		**1,277**	**3,538**
Group companies and associates		270	1,010
Property, plant and equipment, intangible assets and investment property		105	104
Other financial assets		902	2,424
Other cash flows from investing activities		**24**	**52**
CASH FLOWS FROM INVESTING ACTIVITIES	25	**(2,933)**	**222**
Proceeds from and (payments for) equity instruments:	6	**(382)**	**508**
Issue		746	1,491
Return and redemption		(406)	(605)
Acquisition		(1,123)	(766)
Disposal		401	388
Changes in ownership interest in companies without loss of control	6	**200**	—
Acquisition		**(23)**	—
Disposal		**223**	—
Proceeds from and (payments for) financial liability instruments:	7	**825**	**(1,206)**
Issuance		11,417	10,163
Repayment and redemption		(10,592)	(11,369)
Payments on shareholder remuneration and other equity instruments	6	**(625)**	**(346)**
Other cash flows from financing activities:		**(547)**	**(571)**
Net interest payments and payments under leases		(356)	(417)
Other proceeds from/(payments for) financing activities		(191)	(154)
CASH FLOWS FROM FINANCING ACTIVITIES	25	**(529)**	**(1,615)**
EXCHANGE RATE FLUCTUATIONS EFFECT		**59**	**(3)**
NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS	25	**1,274**	**1,342**
CASH AND CASH EQUIVALENTS AT BEGINNING OF PERIOD		**4,321**	**2,979**
CASH AND CASH EQUIVALENTS AT END OF PERIOD:	8	**5,595**	**4,321**
Cash and banks		2,508	2,234
Other financial assets		3,087	2,087

Repsol S.A. and Investees comprising the Repsol Group
NOTES TO THE 2021 FINANCIAL STATEMENTS

NOTES

[1] The Appendices form an integral part of the consolidated Financial Statements.

GENERAL INFORMATION

(1) About these Financial Statements

These 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, 2021, as well as the Group's earnings performance, the changes in the consolidated equity and the consolidated cash flows for the year then ended.

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, 2021, and other provisions of the applicable regulatory framework. Their preparation makes it necessary to use accounting estimates and judgments when applying the accounting standards. The areas in which most significant judgements and estimates have to be made are detailed in Note 3.

These Financial Statements include information relating to climate change, prepared following the recommendations of the Task Force on Climate-related Financial Disclosure (TCFD), which Repsol has voluntarily joined (see Note 30), in line with its strategy to achieve net zero emissions by 2050 and the objectives of the Paris Climate Summit and Sustainable Development Goals of the United Nations. In addition, that established in the IASB publication "*Effects of Climate-Related Issues on Financial Statements*" on the impact of climate change on the application of IFRSs in financial reporting was taken into account in preparing these Financial Statements (see Notes 3, 10, 21 and 30).

These consolidated Financial Statements have been prepared on a historical cost basis and, where applicable, the bases for measurement at fair value of financial assets at fair value through profit or loss and through other comprehensive income, derivative financial instruments and business combinations have been used.

The preparation of the consolidated Financial Statements is the responsibility of the directors of Repsol, S.A., the parent company of the Group. They were authorized for issue by the Board of Directors of Repsol, S.A. at its meeting held on February 16, 2021 and they will be submitted for approval at the Annual General Meeting; it is expected that they will be approved without any modifications. The 2020 consolidated Financial Statements were approved at Repsol's Annual General Meeting held on March 26, 2021.

The Group's consolidated Management Report, which includes financial and non-financial information and, in particular, the consolidated Statement of Non-Financial Information and other information on sustainability, including Environmental, Social and Governance (ESG) matters, is published together with the consolidated Financial Statements. This 2021 consolidated Management Report can be found on the Repsol website[1].

(2) About Repsol

2.1) Repsol Group

Repsol is a group of companies with a presence worldwide (hereinafter "*Repsol*", "*Company*", "*Repsol Group*" or "*Group*") that, with a vision of being a multi-energy efficient, sustainable and competitive company, performs activities in the hydrocarbon sector throughout its entire value chain (exploration, development and production of crude oil and natural gas, refining, production, transportation and sale of a wide range of oil and petrochemical products, oil derivatives and natural gas), as well as activities for the generation and sale of electricity[2]. The Group comprises more than 300 companies, subsidiaries, joint arrangements and associates incorporated in 36 countries (mainly in Spain, the United States, Canada and the Netherlands) that occasionally carry out activities abroad through branches, permanent establishments, etc. The Group's main companies and the summarized corporate organization chart are presented in section 2.3 of the 2021 consolidated Management Report.

[1] 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*". All these reports are available on the Repsol website.
[2] For further information, see section 2.1 Value chain and business segments of the 2021 consolidated Management Report.

The Group operates in several business segments, the main metrics of which are summarized below:

	Income from ordinary activities (5)		Operating income		Adjusted net income		Free cash flow		Capital employed	
€ Million	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
Exploration and Production (1)	4,924	3,047	3,026.5	351	1,687	195	2,465	1,231	12,348	12,608
Industrial (2)	25,502	15,556	792	369	606	297	196	209	11,163	9,755
Commercial and Renewables (3)	21,703	16,359	761	650	542	485	475	1	4,451	4,061
Corporate (4)	1	1	(208)	(235)	(381)	(377)	(297)	538	594	893
TOTAL	**52,130**	**34,963**	**4,372**	**1,135**	**2,454**	**600**	**2,839**	**1,979**	**28,556**	**27,317**

Note: Figures calculated in accordance with the Group's reporting model described in Note 4 and Appendix III.
(1) Activities involving the exploration, development and production of crude oil and natural gas reserves.
(2) Activities involving refining, petrochemicals, trading and transportation of crude oil and other products and the sale, transportation and regasification of natural gas and liquefied natural gas (LNG).
(3) Sale of electricity and gas, mobility and the sale of oil products and liquefied petroleum gases (LPG), as well as low-carbon power generation and electricity generation from renewable sources.
(4) Corresponds to the operating expenses of the corporation and, specifically, those of the Group's management that have not been invoiced as services to the businesses, the financial result and inter-segment consolidation adjustments
(5) Corresponds to the sum of the "*Sales*" and "*Services rendered and other income*" (see Appendix III).

With regard to the changes in the composition of the Group in 2021, new assets related to the energy transition were acquired and divestments were carried out in the Exploration and Production segment as described in Note 2.3.

For further information on the Group's composition and the changes in its corporate structure, see Appendices I, IA, IB and IC.

2.2) Parent company

The parent company of the Group is Repsol, S.A.[3] It is registered at the Madrid Companies Register on sheet no. M-65289; its tax ID number (C.I.F.) is A-78/374725 and its National Classification of Economic Activities (C.N.A.E.) no. is 70.10.

Repsol, S.A. is a private-law entity, incorporated in accordance with Spanish law, which is subject to the Spanish Companies Act (*Ley de Sociedades de Capital*), and all other legislation related to listed companies.

Its registered office is located at calle Méndez Álvaro, 44, Madrid, 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). The Company also has an ADS (American Depositary Shares) Program, which is quoted on the OTCQX market (a platform in the US over-the-counter markets that differentiates those issuers with better market information policies and solid business activities).

2.3) Main new developments in the year[4]

- The availability of several vaccines and the launch of vaccination programs in most countries have led to a favorable change in the evolution of COVID-19. This, and the positive effect of public policies for reactivation, have made it possible to promote a **gradual recovery of economic activity and mobility** — albeit still unevenly across the different countries and with the global risk of the appearance of new strains —, which have boosted demand and the prices of raw materials and reference products. This improved environment has favorably affected, although unevenly, the activities and results of the company's businesses. Further explanation and details of this are given in sections 4.1 and 5.4 of the 2021 consolidated Management Report.

- Repsol has announced new, more ambitious goals to address the **transformation towards carbon neutrality by 2050**. In this regard, renewable generation and emissions reduction targets have been increased to accelerate its transformation by 2050. This most notably includes the new decarbonization roadmap that establishes a more demanding reduction in the carbon intensity indicator (15% by 2025, 28% by 2030 and 55% by 2040, compared to a previous target of 12%, 25% and 50%, respectively), the increase in the internal carbon price applied to all new investments, the new reduction targets for absolute emissions by 2030 and the more ambitious targets for reducing methane emissions intensity. It was also announced that 35% of the investments made by Repsol between 2021 and 2025 will be allocated to low-carbon initiatives, which means that around €6,500 million will be invested to increase renewable electricity generation (20 GW

[3] The Financial Statements and Management Report of Repsol, S.A. can be viewed on Repsol's website.
[4] For a complete description of the main events during the period, see section 1. *Highlights of 2021* in the 2021 consolidated Management Report.

installed by 2030), renewable hydrogen production (1.9 GWeq by 2030) and promote other low-carbon initiatives. For further information, see section 2.5 of the 2021 consolidated Management Report.

– In terms of progress regarding the **transformation** of our businesses as envisaged in the 2021-2025 Strategic Plan, this first year we increased the low-carbon generation capacity and internationalization of the Renewables business with the acquisition in the US of 40% of Hecate Energy Group LLC, a company that carries out photovoltaic projects and batteries for energy storage (see Note 13) and 100% of the photovoltaic power station to be developed in New Mexico (Jicarilla 2); the progress made in Spain includes the entry into operation of the Kappa photovoltaic power station and the Valdesolar photovoltaic project, the commencement of work on the Delta II wind power project and the acquisition of Gana Energía, which has 36 thousand customers and sells 100% renewable energy. In Chile, the construction of its first joint wind farm, Cabo Leones III, was completed. In addition, it should be noted that in 2021 several long-term power purchase agreements (PPAs) were signed with large business groups such as Microsoft or Amazon (see Note 9). For further information, see section 5.3 of the 2021 consolidated Management Report.

  In the Industrial segment, Repsol continued to make progress in transforming its industrial facilities into energy hubs capable of generating low, zero or even negative carbon footprint products. Construction of an advanced biofuels plant began at the Cartagena refinery, the first of its kind in Spain; work began on processing recycled oil to manufacture hydrogenated vegetable oil at the A Coruña refinery; and the Company has investment plans for its other industrial complexes, such as those announced for Tarragona, mainly for circular economy projects, in Puertollano, where it will invest in decarbonization and circular economy, or in the Sines Industrial Complex (Portugal) for the construction of two plants using 100% recyclable polymeric materials. Furthermore, the hydrogen strategy to lead the renewable hydrogen economy in the Iberian Peninsula and to be a significant player in Europe has been presented, with the first steps being the approval of an investment in a 2.5 MW electrolyzer, which will be commissioned in 2022, and the progress made in the design of large projects for the production of renewable hydrogen located in Tarragona, Cartagena and Petronor, which will be commissioned in 2024 and 2025. In addition, we have continued to make progress in the design of the DEMO plant for the production of synthetic fuels at the Port of Bilbao, which is scheduled to enter into operation in 2024. For further information, see sections 5.2 and 7.2. of the 2021 Management Report.

  In response to the Spanish Government's call for expression of interest in the Next Generation EU funds (a recovery plan to help repair the economic and social damage caused by the pandemic), Repsol presented a portfolio of 31 projects that combine technology, decarbonization and the circular economy, creation of quality employment and territorial balance, for an initial associated investment of €6,359 million.

– Progress was made during the year in various **divestment processes**, which, in line with the Company's 2021-2025 Strategic Plan, will allow us to focus our activities in the geographical areas that offer the greatest competitive advantages, accelerate the decarbonization of our operations and support, in the case of renewables, the asset rotation strategy. In the Exploration and Production segment, the Company completed the sale of its holdings in AR Oil & Gaz, B.V. in Russia (a joint venture formed with Alliance Oil), the assets of Tin Fouyet Tabenkor (TFT) in Algeria, Brage in Norway, and block 15/02 in Vietnam (the divestments in Malaysia, Ecuador and Russia — Karabashsky exploration activities — as described in Note 32, were completed in 2022). In the Commercial and Renewables segment, the sale of the fuel business in Italy was completed and an agreement was signed with the Pontegadea Group to acquire a 49% holding in the Delta I wind farm located in the province of Zaragoza for €245 million.

  With regard to **investments**, in the Exploration and Production segment, gas assets in production were acquired from the US gas company Rockdale Marcellus for €196 million, and in the Industrial segment, Repsol acquired a 25% holding in Saint John LNG Limited Partnership (formerly Canaport LNG, LTD) for $170 million (€148 million), thus achieving 100% control over the company[5] (see Notes 9 and 15).

– During the year, the Group strengthened its financial and liquidity position by issuing two senior bonds for a total of €1,250 million tied to sustainability objectives (Sustainability-Linked Bonds) as part of the new integrated sustainable financing strategy (see Note 7.2), issuing senior bonds amounting to €300 million (see Note 7.2) and issuing perpetual subordinated bonds for an amount of €750 million in March (see Note 6.4). In addition, bonds for a nominal amount of €1,000 million were cancelled at maturity (see Note 7.2) and the remaining balance of the issue of subordinated perpetual bonds issued in 2015 was redeemed (see Note 6.4). Furthermore, during the year Standard & Poor's, Moody's and Fitch confirmed Repsol's **investment grade rating**. For further information, see section 4.3 of the 2021 consolidated Management Report.

[5] As a result of this acquisition, all of this company's assets and liabilities were recognized, on a preliminary basis, at market value and the net assets corresponding to the previous 75% were derecognized, in accordance with accounting regulations. At the Group level, assets decreased by €3 million and liabilities decreased by €151 million (financial debt, including lease liabilities, increased by €156 million and provisions for contingencies and charges — onerous consideration — decreased by €314 million). In addition, a total of €-12 million was taken to income for translation differences and mark-to-market reserves accumulated in equity related to the cash flow hedge for the interest on the financing of the LNG plant.

– **Shareholder remuneration** in 2021 amounted to €0.588 per share, in the form of a scrip dividend closed in January 2021 (equal to €0.288 gross per share), and a cash dividend of €0.30 gross per share paid in July. In addition, a capital reduction was carried out through the redemption of 40,494,510 treasury shares aimed at offsetting the dilutive effect of the scrip dividend. For further information, see Note 6.3.

(3) Criteria for the preparation of these Financial Statements

3.1) General 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, 2021, and other provisions of the applicable regulatory framework.

Repsol prepares its consolidated financial statements including the investments in all its subsidiaries, joint arrangements and associates, 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 also the functional currency of the parent company.

3.2) Comparative information

The new developments in the accounting standards applied by the Group as of January 1, 2021[6] did not have a significant impact given their nature and scope.

3.3) 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	
Adopted by the European Union	**Date of first application**
Amendments to IFRS 3 - *Amendments to References to the Conceptual Framework for Financial Reporting*	January 1, 2022
Amendments to IAS 16 - *Proceeds Before Intended Use*	January 1, 2022
Amendments to IAS 37 - *Onerous Contracts: Cost of Fulfilling a Contract*	January 1, 2022
Annual improvements to IFRSs: 2018-2020	January 1, 2022
IFRS 17 "*Insurance Contracts*" (1)	January 1, 2023
Pending adoption by the European Union	
Amendments to IAS 12 - *Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction*	January 1, 2023
Amendments to IAS 1 - *Classification of Liabilities as Current or Non-Current*	January 1, 2023
Amendments to IAS 1 - *Disclosure of Accounting Policies*	January 1, 2023
Amendments to IAS 8 - *Definition of Accounting Estimates*	January 1, 2023
Amendments to IFRS 17 - *Application of IFRS 17 and IFRS 19 – Comparative Information*	January 1, 2023
Amendments to IFRS 10 and IAS 28 - *Sale or Contribution of Assets between an Investor and its Associate or Joint Venture*	Undefined

(1) Includes the Amendments to IFRS 17 published by the IASB on June 25, 2020

The Group is currently assessing the potential impacts the application of these standards may have on the consolidated financial statements, without any material impacts having been identified to date.

[6] The following standards have been applied as of January 1, 2021 with no significant impact on the Group's financial statements: i) Amendments to IFRS 4 - *Deferral of IFRS 9*; and ii) Amendments to IAS 39, IFRS 4, IFRS 7, IFRS 9 and IFRS 16 - *Interest Rate Benchmark Reform - (Phase 2; see Appendix II)*. In addition, the Amendments to IFRS 16 - *COVID-19 Related Rent Concessions beyond June 30, 2021* have been applied as of April 1, 2021, and also did not have any impact on the financial statements.

3.4) Basis of consolidation and accounting policies

Repsol classifies investments as subsidiaries, joint arrangements and associates based on the control exercised over them:

i. subsidiaries: those over which Repsol exercises direct or indirect control and are fully consolidated;

ii. joint arrangements: those in which strategic operational and financial decisions require the unanimous consent of the parties sharing control (joint control) and are classified as: a) joint operations arranged through a Joint Operating Agreement (JOA) or similar vehicle that does not limit the risks and rewards of the venturer and that are included in the financial statements of the partners based on the ownership interest in the assets, liabilities, income and expenses arising from the agreement; or b) Joint Ventures (JVs) that represent an interest in the net assets of the agreement and that are accounted for using the equity method; and

iii. associates: interests over which it has significant influence, which do not require consent from Repsol in making strategic operational and financial decisions but over which it has the power to participate, and that are accounted for using the equity method.

The items included in these consolidated Financial Statements relating to the Group companies are measured using their functional currency, which is the currency of the main economic environment in which they operate; when this differs from the presentation currency of the financial statements, 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), and iii) any exchange differences arising as a result of the foregoing are recognized under "*Equity - Translation differences*".

Transactions in currencies other than the functional currency of a Group company 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 recognized under "*Financial result - Exchange gains/(losses)*".

Lastly, it should be noted that the significant accounting policies and options are highlighted, in text boxes, throughout the notes to these Financial Statements, except for those specific to hydrocarbon exploration and production activities, which are described in Note 3.7.

3.5) Accounting estimates and judgements

The preparation of financial statements in accordance with applicable accounting principles makes it necessary to make judgements and estimates that affect the recognition and valuation of assets and liabilities, income and expenses for the period, and the breakdown of the contingent assets and liabilities. The actual results could differ significantly depending on the estimates made.

The accounting policies and areas that require the highest degree of judgement and estimates in the preparation of these financial statements are: (i) crude oil and natural gas reserves (see Note 3.7); (ii) recoverable amount of assets (see Note 3.6 and Note 21); (iii) provisions for litigation, decommissioning and other contingencies, such as those caused by environmental damage (see Notes 15 and 30.2); (iv) income tax, tax credits and contingencies, and deferred tax assets (see Note 23); (v) market value of derivative financial instruments (see Appendix II and Note 9); (vi) expected loss on financial instruments (see Notes 10 and 21.3); and (vii) assessment of investments in Venezuela (see Notes 13 and 21.3).

Repsol has taken into account the impacts of climate change and the decarbonization of the economy when determining accounting estimates and judgements, especially in assessing the recoverable amount of the assets.

3.6) Calculating the recoverable amount of the assets

Calculating the recoverable amount

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 income, expenses and investments of the different cash-generating units (CGUs)[7], whereby they use sector forecasts, prior results and the outlook for the performance of the business and development of the market:

- Macroeconomic variables are those used in the preparation of the budgets. The macroeconomic framework for the countries in which the Group operates takes into consideration variables such as inflation, GDP, exchange rate, etc. and is 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 oil, natural gas, electricity and CO_2 price paths used for the impairment test are our own estimates, which are compared with the scenarios given by international agencies and other market players. The paths are developed on the basis of available macroeconomic, financial and market information and the forecasts provided by analysts and they consider scenarios for the energy transition and decarbonization of the economy that are consistent with the objectives of the Paris Climate Summit.

  In particular, crude oil and gas prices are calculated by analyzing key market variables and their foreseeable trend, including our own forecasts of the balance of supply and demand of energy and prices. The longer-term vision is also explained by monitoring other variables such as the decline of crude oil and gas fields, the current CAPEX, the financial sustainability of 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 price trends, forecast reports produced by a selection of investment banks, macro consultants (Platts Analytics, IHS, Wood Mckenzie, Energy Aspects and Oxford Economics) and the International Energy Agency (IEA) are taken into account.
    ii. The source that provides a sufficiently detailed analysis of long-term forecasts is the IEA, a benchmark agency that also carries out detailed studies of supply, demand and price forecasts under different scenarios.

  In 2021, in view of the rapid recovery of the commodity markets and the more optimistic outlook for recovery from the consequences of the pandemic, the Group revised its short-term expectations for future crude oil and gas prices to bring them into line with the new backdrop and maintained the medium and long-term assumptions used in 2020.
- The most relevant CO_2 price path for the Group in the impairment test corresponds to the prices of emission allowances under the current EU ETS mechanism. In 2021, the price path was revised upwards with a significant increase compared to those used in 2020, mainly as a result of the more ambitious decarbonization targets announced by Repsol and those set by the European Union (up to 55% -Fit for 55-, see Appendix IV). Specific assumptions have been used for other countries with CO_2 emission allowances or taxes.
- Forecasts for electricity prices in Spain are calculated using the Company's own model that weights the influence of the different factors on the wholesale market. Although the model is used mainly for natural gas prices and CO_2 emission allowances, it also reflects the impact of new future developments on renewable generation capacity, as well as economic forecasts that may influence changes in demand. The conclusions obtained are compared with external forecasts that the Company obtains from specialized agencies. In 2021, the price path was revised upwards with a significant increase compared to those used in 2020, mainly as a result of the increase in the price of gas and CO_2 allowances.

Note 21 specifies the future price assumptions used to perform the impairment test.

[7] Cash-generating unit: the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets.

Discount rates

Future cash flows are discounted to their present value at a specific rate for each CGU, determined based on the currency of its cash flows and the risks associated with them. The discount rate used by Repsol is the weighted average cost of capital employed after tax for each country and business. This rate seeks to reflect current market assessments with regard to the time value of money and the specific risks of the business. Therefore, the discount rate used takes into account the risk-free rate, the country risk, the currency in which the cash flows are generated, and the market, credit and business risk. For the sake of consistency, estimated future cash flows do not reflect the risks that have already been considered in the discount rate or vice versa. The discount rate used considers the average leverage of the sector over the last five years, as a reasonable approximation of the optimal capital structure, using comparable oil companies as a reference and their main components are as follows:

- The risk-free interest rate for cash flows in US dollars is the US 10-year treasury bond and for cash flows in euros it is the German 10-year sovereign bond, adjusted when rates are negative;
- With regard to country risk, the following are used: (i) market quotations, such as the spread of sovereign bonds in euros or US dollars over debt issued by Germany (euros) or the US (USD), respectively, (ii) country risk estimates contained in the EMBI (Emerging Markets Bond Index) published by JP Morgan, and (iii) country risk estimates published by three external providers - Country Risk Rating (IHS Global Insight), International Country Risk Guide (PRS Group) and Business Monitor (Fitch Group) - all adjusted for specific risks of the business and/or asset;
- A different credit risk premium is used depending on the currency (EUR and USD); and
- Business risk premiums are specifically calculated on the basis of 5-year historical series from comparable companies, for each of the businesses.

Note 21.1 shows the discount rates used in the 2021 impairment test.

Estimated cash flows

In order to estimate the cash flows, the expected performance of key variables is calculated in accordance with the expectations considered in the annual budget and in the strategic plans of each business, which are prepared in line with the scenario of the energy transition and decarbonization of the economy as described below. Cash inflows and outflows corresponding to future restructurings or transformational investments for improving the asset's performance are not taken into consideration.

Hydrocarbon exploration and production assets

Valuations of the production assets of Exploration and Production (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 permits, agreements or contracts and consistent with the climate and environmental regulations of each country. The general principles applied to determine the variables that most affect the cash flows of this business are described below:

- Hydrocarbon sale prices. The main 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, resources and production profiles. Production profiles are estimated on the basis of the productive life of existing wells and the development plans in place for each productive field (see "*Estimate of crude oil and gas reserves and resources*" in the section below).
- Operating expenses and investments. These are calculated for the first year on the basis of the Group's annual budget and thereafter in accordance with the asset development plans.

Assets of the Industrial segment

Cash flows are estimated on the basis of the outlook for their key variables (demand for oil products, unit contribution margins, investments and fixed costs). The main particular features of the most significant businesses are described as follows:

– With regard to Refining in Spain, projections were made up to 2040. Demand for oil products is estimated to fall significantly both globally (by about 30% from 2017 to 2040) and in Europe (by about 60% over the same period). In this scenario, less investments will be made in the refining sector, which will partly offset the effect of the drop in demand.

  In July the European Commission adopted a package of proposals to adapt the European Union's climate, energy, land use, transport and taxation policies (commonly referred to as "Fit for 55") with the aim of reducing net greenhouse gas emissions. The production of renewable diesel and biojet fuel will need to be increased as of 2025 to meet fuel obligations. The projections for the Refining business in Spain consider the cash flows from the production of biofuels in the units and processes currently existing at the refineries, which include new feedstock of biological origin.

– Five-year projections are made in the Chemicals business, extrapolating for subsequent years the flow corresponding to the fifth year without applying a growth rate. Chemical products play an important role in facilitating the energy transition and decarbonization, as they are present throughout the value chain of almost all industries. The use of chemical products and solutions can help address several of the challenges associated with the energy transition, and many low-carbon technologies depend on innovations in chemistry to be more efficient, affordable and scalable (e.g., materials for solar panels, vehicle weight reduction, insulation, food preservation, energy savings and efficiency).

– The cash flows for the Wholesale and Trading Gas businesses in North America are projected according to the term of the regasification and gas transportation contracts and were estimated in accordance with the following assumptions:

  i. Gas and LNG prices. The international benchmark prices used are: HH, Algonquin and TTF (Title Transfer Facility), adjusted in accordance with references in the corresponding market if the prices do not reflect market circumstances.

  ii. Gas and LNG sales 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 expected activity, all in accordance 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.

Assets of the Commercial and Renewables segment

– With regard to Mobility businesses, ten-year projections are made and then a rate of decline is applied. The reduction in the demand for fossil fuels expected for Spain within the framework of European decarbonization policies takes into account (especially until 2030) the characteristics of the vehicle fleet, differences in per capita income and the importance of heavy traffic (representing more than 30% of demand), which is difficult to replace in the short term. Starting in 2031, the energy transition is expected to accelerate to match the levels expected in Europe in the IEA's sustainable development scenarios.

– For the gas and electricity retail sale businesses in Spain, 10-year projections are made, with the cash flow corresponding to the tenth year being extrapolated for subsequent years without applying a growth rate.

– Projections have been made for electricity generation assets in accordance with the expected useful life of the plants, ranging from 14 to 40 years depending on the technology (from lowest to highest: combined cycle, wind and photovoltaic, or hydroelectric plants), applying the prices for the sale of electricity included in the PPAs for energy committed to third parties and market prices for the rest.

Associates and joint ventures

The recoverability of the Group's investments in associates or joint ventures is assessed by comparing their recoverable amount with their carrying amount (see Note 13). The recoverable amount of an investment in an associate or joint venture is assessed individually, unless the associate or joint venture does not generate cash inflows that are largely independent of those from the Group's other assets or cash-generating unit.

In view of the foregoing, changes in the key assumptions used in calculating the recoverable amount of the assets may have a significant effect on the Group's results.

3.7) Accounting policies, judgements and estimates relating to hydrocarbon exploration and production activities

Expenses and investments

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:

- The costs of acquiring (including bonds, legal costs, etc.) new interests in areas with reserves, including those acquired in business combinations, are capitalized under "*Investments in areas with reserves*" in property, plant and equipment.

- The costs of acquiring exploration permits and the geological and geophysical (G&G) costs incurred during the exploration phase are capitalized under "*Exploration permits*" in intangible assets. They are not amortized during the exploration and evaluation phase and they are tested for impairment at least once a year and, in any case, when there is an indication that they may have become impaired, in accordance with the indicators of IFRS 6 "*Exploration for and evaluation of mineral resources*". Once the exploration and evaluation phase is over, if no economically viable reserves are found, the amounts capitalized are recognized as an expense in the income statement.

- Exploratory drilling costs are capitalized under "*Investments in exploration*" in property, plant and equipment until it is determined whether reserves justifying their commercial development have been found. If no economically viable reserves are found, the capitalized drilling costs are recognized 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:

    a. If additional investments are required prior to the start of production, they continue to be capitalized as long as the following conditions are met: (i) the amount of reserves found justifies the completion of a productive well if the required investment is made, 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.

    b. In all other cases, if there is no commitment to carry out significant activities to evaluate the reserves or develop the project within a reasonable period after well drilling has been completed, they are recognized as an expense in the income statement.

- The costs incurred in exploratory drilling work that have yielded a commercially exploitable reserve are reclassified at their carrying amount to "*Investments in areas with reserves*" under property, plant and equipment.

- Exploration costs other than G&G costs, excluding the costs of drilling exploration wells and exploration licenses, are recognized as an expense in the income statement when incurred.

- Development expenditure incurred in lifting hydrocarbon, its processing or storing is capitalized under "*Investments in areas with reserves*" in property, plant and equipment.

- Future field abandonment and decommissioning costs are capitalized at their present value when they are initially recognized under "*Investments in areas with reserves*" against the line item for decommissioning provisions (see Note 15).

- The investments capitalized are depreciated according to the unit of production method and in accordance with the following criteria:

    a. Investments in the acquisition of proved and probable reserves and investments in common facilities are depreciated on the basis of the production for the year as a proportion of those reserves.

    b. The costs incurred in surveys for the development and extraction of hydrocarbon reserves are depreciated on the basis of the relationship between the production for the year and the total of the most probable proved reserves.

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

Estimate of crude oil and gas reserves and resources

The estimate of oil and gas reserves and resources is a key component of the Company's decision-making process. Oil and gas reserve volumes are used to calculate depreciation and amortization charges, and to assess the recoverability of the investments in assets of the Upstream segment (see Note 3.6). Changes in volumes of reserves and resources could have a significant impact on the Group's results.

The reserves are classified as follows:

a. Proved reserves: Proved reserves 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.

b. Probable reserves: Probable reserves are those additional reserves that, 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.

c. Developed reserves: Proved or probable quantities that are expected to be recovered from existing wells and facilities.

d. Undeveloped reserves: Proved or probable quantities that are expected to be recovered through future investments.

e. Contingent resources: Those quantities of oil and natural gas 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.

Independent engineering firms periodically audit registered volumes (at least 95% of the reserves are audited externally in a three-year cycle). For information on the Group's reserves, see "*Information on oil and gas exploration and production activities*".

To estimate oil and gas reserves and 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)*".

SEGMENT REPORTING

(4) Information by business segment[8]

4.1) Definition of business 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 Group's business segments is based on the different activities performed by the Group, 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 Committee) analyzes the main operating and financial aggregates in order to make decisions about resource allocation and to assess how the Company is performing.

At December 31, 2021 and 2020, Repsol's reporting segments are as follows:

- Exploration and Production (*Upstream/E&P*): activities for the exploration, development and production of crude oil and natural gas reserves.
- Industrial: activities related to (i) refining, (ii) petrochemicals, (iii) trading and transportation of crude oil and oil products, and (iv) sale, transportation and regasification of natural gas and liquefied natural gas (LNG).
- Commercial and Renewables: (i) low-carbon power generation and renewable sources, (ii) sale of gas and power, (iii) mobility and sale of oil products, and (iv) liquefied petroleum gas (LPG).

On the other hand, "Corporate and other" includes (i) corporate overhead expenses and, specifically, those expenses related to managing the Group that have not been invoiced to the business divisions as a service, (ii) the financial result, and (iii) intersegment consolidation adjustments.

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

4.2) Presentation model of the results by segments

In presenting the results and other financial aggregates of its operating segments, Repsol includes the results of its joint ventures[9], in accordance with the Group's interest, considering its operational and economic metrics in the same manner and with the same level of 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, uses a measure of segment profit known as 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 that are presented separately ("*Special Items*"). The financial result is assigned to the adjusted net income of *Corporate and other*.

The Current Cost of Supply (CCS), commonly used in this industry to present the results of the Industrial and the Commercial and Renewables businesses that 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 the monitoring of 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 procurement and production costs incurred during that same period. Therefore, adjusted net income does not include the so-called inventory 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 obtained using the weighted average cost approach, which is the method used by the Group to determine its earnings in accordance with European accounting regulations.

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

[9] See Note 13 and Appendix I, where the Group's main joint ventures are identified.

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, restructuring costs, asset impairment losses (provisions/reversals), provisions for contingencies and charges, and other relevant income/expenses that do not form part of the ordinary management of the businesses. These results are presented separately, net of the tax effect and non-controlling interests.

4.3) Financial information by business segment

The main financial information by business segment is included in this note and Appendix III. Additional information on the performance of these segments can be found in the accompanying consolidated Management Report, which is published together with these Financial Statements.

Results

	€ Million	
SEGMENTS	**2021**	**2020**
Exploration and Production	1,687	195
Industrial	606	297
Commercial and Renewables	542	485
Corporate and other	(381)	(377)
ADJUSTED NET INCOME	**2,454**	**600**
Inventory effect	797	(978)
Special items	(752)	(2,911)
NET INCOME	**2,499**	**(3,289)**

Other figures

	Operating income		Cash flow from operations		Free cash flow		Operating investment[1]		Capital employed	
€ Million	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
Exploration and Production	3,027	351	3,355	1,736	2,465	1,231	1,223	948	12,348	12,608
Industrial	792	369	1,031	783	196	209	859	565	11,163	9,755
Commercial and Renewables	761	650	1,288	703	475	1	829	739	4,451	4,061
Corporate and other	(208)	(235)	(221)	(25)	(297)	538	83	56	594	893
TOTAL	**4,372**	**1,135**	**5,453**	**3,197**	**2,839**	**1,979**	**2,994**	**2,308**	**28,556**	**27,317**

[1] Includes investments accrued during the period.

CAPITAL STRUCTURE, DEBT AND FINANCIAL RESOURCES

(5) Financial structure

Repsol has adopted a policy of financial prudence with the aim of maintaining its investment grade credit rating. For more information, see section 4.3 of the 2021 consolidated Management Report.

The determination of the target financial structure takes into account a leverage ratio that ensures the Group's financial strength, defined as the relationship between net debt[10] and capital employed[11]. Both metrics are calculated, for these purposes, in accordance with the Group's reporting model described in Note 4 and the reconciliation of these figures to those established in EU-IFRSs and used for the preparation of these consolidated Financial Statements can be found in Appendix III and in the consolidated Management Report (www.repsol.com). The calculations of these ratios at December 31, 2021 and 2020, are as follows:

€ Million	12/31/2021	12/31/2020
Equity	22,794	20,539
Net financial debt (1)	5,762	6,778
Capital employed (1)	28,556	27,317
Leverage ratio (%)	**20.2**	**24.8**

(1) Alternative Performance Measure.

(6) Equity

	€ Million	
	2021	**2020**
Shareholders' equity:	**22,320**	**21,185**
Share capital	1,527	1,568
Share premium and Reserves:	16,655	21,132
Share premium	4,038	4,078
Legal reserve (1)	314	312
Retained earnings and other reserves (2)	12,303	16,844
Dividends and remuneration on account	—	(102)
Treasury shares and own equity investments	(641)	(162)
Net income for the period attributable to the parent	2,499	(3,289)
Other equity instruments	2,280	1,936
Other cumulative comprehensive income	**94**	**(890)**
Equity instruments with changes through other comprehensive income	(4)	(3)
Hedging transactions	51	(62)
Translation differences	47	(825)
Non-controlling interests	**380**	**244**
TOTAL EQUITY	**22,794**	**20,539**

(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) This heading includes the transfer from income for the year attributable to the parent for 2020. Includes a reserve for retired capital amounting to €280 million, which is equivalent to the nominal value of the shares retired in the capital reductions since 2018 under the "*Repsol Flexible Dividend*" program (see Note 6.3).

[10] The formula considers net and not gross debt to factor in the effect of financial investments.
[11] Corresponds to the sum of net financial debt and equity.

6.1) Share capital

The subscribed share capital at December 31, 2021 and 2020 registered with the Companies Register was represented by 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. According to the latest information available, Repsol's significant shareholders are:

Significant shareholders	% of voting rights attributed to shares: Direct	% of voting rights attributed to shares: Indirect	% of voting rights through financial instruments	% of total voting rights
BlackRock, Inc. (1)	—	5.092	0.213	5.305
Banco Santander, S.A.	1.512		2.317	3.829
Norges Bank	3.187	—	0.005	3.192
Sacyr, S.A. (2)	—	3.094	—	3.094
Amundi, S.A. (3)	—	3.288	—	3.288

(1) BlackRock, Inc. holds its interest through a number of controlled entities.
(2) Sacyr, S.A. holds its interest through Sacyr Investments II, S.A.U.
(3) Amundi, S.A. holds its interest through various controlled entities.

At December 31, 2021 Repsol, S.A.'s shares were listed on the following markets:

Number of shares listed	% of share capital listed	Stock exchanges (1)	Closing	Quarter average	Currency
1,527,396,053	100%	Spanish stock exchanges (Madrid, Barcelona, Bilbao, Valencia)	10.44	10.76	Euros
		OTCQX	11.76	12.34	Dollars

Note: For more information regarding Repsol's shares, see section 4.4 of the 2021 Management Report.
(1) Exchanges, markets or multilateral trading platforms on which the shares may be traded without having been specifically requested by the Group are not included.

On October 19, 2021 the common shares representing the Class A share capital of Refinería La Pampilla, S.A.A. were delisted from the Public Registry of the Lima Stock Exchange, following completion of the delisting processes initiated by Repsol Perú B.V. (see Note 6.5).

6.2) Treasury shares and own equity investments

The main transactions undertaken by the Repsol Group involving treasury shares[12] were as follows:

€ Million	2021 No. of shares	2021 Amount	2021 % capital	2020 No. of shares	2020 Amount	2020 % capital
Opening balance	**19,601,118**	**162**	**1.25 %**	**80,768,905**	**1,170**	**5.16 %**
Market purchases (1)	123,085,955	1,272	8.06 %	96,294,772	850	6.14 %
Market sales (1)	(38,081,992)	(366)	2.49 %	(58,847,189)	(637)	3.75 %
Capital reduction (1)	(40,494,510)	(427)	2.65 %	(98,982,965)	(1,221)	6.31 %
Repsol Flexible Dividend (2)	—	—	— %	367,595	—	0.02 %
Balance at year end	**64,110,571**	**641**	**4.20 %**	**19,601,118**	**162**	**1.25 %**

(1) In 2021 and 2020 “Market purchases” included purchases made under the Company’s Treasury Share Repurchase Plan for redemption (in 2021, a total of 55,494,510 shares were acquired, of which 40,494,510 shares were redeemed as of December 31) In 2021 and 2020 “Market purchases” and “Market sales” also included the shares acquired and delivered within the framework of the Share Acquisition Plan and the Share Purchase Plans for the beneficiaries of the multi-year variable remuneration plans (1,081,992 shares were delivered in 2021 in accordance with that established in each of the plans described in Note 28.4), as well as other transactions within the framework of the discretionary treasury share transactions described in the Repsol Group’s Internal Code of Conduct in the securities market.
(2) New shares received in the share capital increases carried out within the framework of the “*Repsol Flexible Dividend*” program corresponding to treasury shares.

At December 31, 2021, the Company also held derivatives on treasury shares, which are reported in Note 9.

12 The shareholders at the Annual General Meeting held on May 11, 2018, authorized the Board of Directors for a period of 5 years to carry out the acquisition of Repsol shares, directly or through subsidiaries, up to a maximum number of shares such that the sum of those already held by Repsol and any of its subsidiaries does not exceed 10% of the Company’s share 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.

6.3) Dividends and shareholder remuneration

In 2021 and 2020, the Company's shareholders were also remunerated by means of the "*Repsol Flexible Dividend*" program, which allows its shareholders to decide whether they prefer to receive their remuneration in cash (through the sale to the Company or in the market of bonus issue rights) or in Company shares:

	No. of bonus issue rights sold to Repsol	Purchase commitment price (€/right)	Disbursement in cash (€ Million)	New shares issued	Remuneration in shares (€ Million)
December 2019/January 2020	252,017,771	0.424	107	38,647,825	541
June/July 2020	480,011,345	0.492	236	60,335,140	534
December 2020/January 2021	353,055,244	0.288	102	40,494,510	338

To offset the dilutive effect of the capital increase through the bonus share issue carried out in January 2021 within the framework of the "*Repsol Flexible Dividend*" program, in April 2021 a capital reduction was carried out through the redemption of 40,494,510 treasury shares (representing approximately 3% of share capital at the date of the aforementioned capital reduction) approved by the shareholders at the Annual General Meeting on March 26, 2021. The acquisition cost of the shares redeemed amounted to €427 million.

In accordance with the 2021-2025 Strategic Plan, shareholder remuneration through the "*Repsol Flexible Dividend*" program has been replaced by the payment of cash dividends. In July 2021, a cash dividend of €0.30 gross per share was paid out of profit for 2020, for a total of €447[13] million.

Shareholder remuneration in 2021 amounted to €0.588 per share.

At the Annual General Meeting held on March 26, 2021, the shareholders approved the distribution of an additional cash dividend of €0.30 gross per share with a charge to unrestricted reserves, which is recognized as a liability under "*Trade and other payables*" in the balance sheet. Payment was made on January 11, 2022 with a charge to voluntary reserves from undistributed profits for a total of €439[12] million.

Furthermore, on October 27, 2021 the Board of Directors of Repsol, S.A. agreed to submit the following for approval at the next Annual General Meeting: (i) payment in 2022 of supplementary remuneration (in addition to that paid in January 2022) to shareholders at €0.33 gross per share that, at the date of authorization for issue of these consolidated Financial Statements, the Board decided to propose with a charge to profit for 2021; and (ii) a capital reduction, through the redemption of 75,000,000 treasury shares, with a par value of one euro each and representing approximately 4.91% of Repsol's share capital at December 31, 2021[14].

For further information, see section 4.4 of the 2021 consolidated Management Report.

6.4) Other equity instruments

– On March 2021, Repsol International Finance, B.V. ("RIF") finalized the terms of the issuance of a series of subordinated bonds secured by Repsol, S.A. for a total of €750 million, which were perpetual bonds or did not have a maturity date, redeemable at the request of the issuer after the sixth year, or in certain cases provided for in the terms and conditions. The bonds were placed with qualified investors and are listed on the Luxembourg Stock Exchange. Their main characteristics are as follows:

ISIN	XS2320533131
Amount	€750 million
Period for the first option to redeem	12/22/2016 - 03/22/2027
Interest (payable annually)	2.5% until March 22, 2027, and on that date a 5-year swap rate applies plus an additional spread according to the terms and conditions of the bonds.

[13] Remuneration paid for outstanding shares of Repsol, S.A. carrying dividend rights.
[14] For this purpose, the Company may use treasury shares from the following sources: (i) those treasury shares held at October 27, 2021; (ii) treasury shares that may be acquired through the settlement of derivatives on treasury shares arranged by the Company prior to October 27, 2021; and (iii) treasury shares that may be acquired through the Repurchase Program that began on November 10, 2021.

In addition, in March 2021 RIF redeemed the remaining balance of the issue of subordinated bonds issued in March 2015 at their nominal value plus the unpaid interest accrued up until the redemption date for a total of €422 million (€594 million of the nominal amount corresponding to this issue were redeemed in 2020, paying those accepting the offer a total of €606 million in cash).

– On June 2, 2020, RIF issued two series of subordinated bonds secured by Repsol, S.A. for a total of €1,500 million, which were perpetual bonds or did not have a maturity date, redeemable at the request of the issuer after the sixth and eighth year, or in certain cases provided for in the terms and conditions. The bonds were placed with qualified investors and are listed on the Luxembourg Stock Exchange. Their main characteristics are as follows:

	Series 1	Series 2
ISIN	XS2185997884	XS2186001314
Amount	€750 million	€750 million
Period for the first option to redeem	03/11/2026-06/11/2026	09/11/2028-12/11/2028
Interest (payable annually)	3.750% until June 11, 2026, and on that date a 5-year swap rate applies plus an additional spread according to the terms and conditions of the bonds	4.247% until December 11, 2028, and on that date a 5-year swap rate applies plus an additional spread according to the terms and conditions of the bonds

In accordance with the terms and conditions of the issues, the issuer can defer the coupon payments without triggering an event of default. Coupons so deferred will be cumulative and must be paid in certain cases described in the related terms and conditions of the issues (the prospectuses on the issues are available on www.repsol.com).

These bonds, which totaled a nominal amount of €2,250 million at December 31, 2021, were recognized under *"Other equity instruments"*, since it is considered that they do not qualify for recognition as financial liabilities, since their redemption and coupon payments are at the discretion of Repsol. The finance expense, net of taxes, associated with the coupon on the subordinated bonds has been recognized under "*Retained earnings and other reserves*" amounting to €-60 million (€-54 million in 2020).

6.5) Non-controlling interests

Equity attributable to non-controlling interests at December 31, 2021 and 2020 relates to the following companies:

	€ Million	
	2021	**2020**
Petronor, S.A.	175	172
Delta I companies [1]	178	—
Repsol Comercial de Productos Petrolíferos, S.A.	21	35
Refinería La Pampilla, S.A.A.	3	37
Other companies	3	—
TOTAL	**380**	**244**

[1] Corresponds to a group of 8 companies: Alectoris Energía Sostenible 1, S.L., Alectoris Energía Sostenible 3, S.L., Desarrollo Eólico las Majas VII, S.L., Fuerzas Energéticas del Sur de Europa V, S.L., Fuerzas Energéticas del Sur de Europa VI, S.L., Fuerzas Energéticas del Sur de Europa XI, S.L., Fuerzas Energéticas del Sur de Europa XII, S.L. and Generación Eólica El Vedado, S.L.

In October 2021 Repsol Perú B.V. acquired 6.8% of the share capital of Refinería La Pampilla through a takeover bid (see Note 6.1), which resulted in the award of a total of 563,999,345 shares at a price of 0.18 soles per share, for a payment of $26 million, increasing the ownership interest to 99.2% of the share capital.

In November 2021, a 49% holding in the Delta I wind farm was sold to the Pontegadea group for €245 million, without a loss of control. This wind farm as been fully operational since last March and has a total installed capacity of 335 megawatts (MW).

(7) Financial resources

7.1) Financial liabilities

The breakdown of financial liabilities included in the balance sheet headings can be found below:

	€ Million	
	2021	**2020**
Non-current financial liabilities:		
Non-current financial liabilities	10,185	12,123
Non-current trade derivatives [1]	180	44
Current financial liabilities:		
Current financial liabilities	4,611	3,880
Current trade derivatives [3]	871	208
TOTAL	**15,847**	**16,255**

[1] Recognized under "*Other non-current liabilities*" on the balance sheet.
[2] Recognized under "*Trade and other payables*" on the balance sheet.

The breakdown of these financial liabilities at December 31, 2021 and 2020, is provided below:

	December 31, 2021 and 2020									
	At fair value through profit or loss		At fair value through other comprehensive income		At amortized cost		Total		Fair value	
€ Million	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	2021	2020
Bonds	—	—	—	—	6,584	5,513	**6,584**	**5,513**	6,970	6,005
Loans [1]	—	—	—	—	—	3,250	**—**	**3,250**	—	3,250
Lease liabilities	—	—	—	—	2,441	2,505	**2,441**	**2,505**	n/a	n/a
Bank borrowings	—	—	—	—	983	667	**983**	**667**	852	675
Derivatives	207	67	51	78	—	—	**258**	**145**	—	145
Other financial liabilities	—	—	—	—	99	87	**99**	**87**	102	87
Non-current	**207**	**67**	**51**	**78**	**10,107**	**12,022**	**10,365**	**12,167**		
Bonds	—	—	—	—	1,986	2,438	**1,986**	**2,438**	1,977	2,471
Loans [1]	—	—	—	—	1,087	430	**1,087**	**430**	1,087	430
Lease liabilities	—	—	—	—	507	486	**507**	**486**	n/a	n/a
Bank borrowings	—	—	—	—	904	270	**904**	**270**	904	272
Derivatives	747	448	244	4	—	—	**991**	**452**	—	452
Other financial liabilities	—	—	—	—	7	12	**7**	**12**	6	12
Current	**747**	**448**	**244**	**4**	**4,491**	**3,636**	**5,482**	**4,088**		
TOTAL [1] [2]	**954**	**515**	**295**	**82**	**14,598**	**15,658**	**15,847**	**16,255**		

NOTE: For the fair value hierarchy of financial liabilities measured at fair value, see Appendix II.
[1] Includes loans granted by Group companies that are not eliminated in the consolidation process. The change is mainly explained by the allocation of financial assets of Repsol Sinopec Brasil, B.V. to its partners (see Note 13) in the amount of €2,794 million.
[2] In relation to liquidity risk, the distribution of financing by maturity at December 31, 2021 and 2020 is disclosed in Note 10.

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

	2021		**2020**	
€ Million	Average volume	Average cost	Average volume	Average cost
Bonds	8,646	1.69 %	8,245	2.1 %
Other financial liabilities	1,104	1.34 %	3,955	2.5 %
Bank borrowings	1,181	1.75 %	1,895	1.76 %
TOTAL [1]	**10,931**	**1.71 %**	**14,095**	**2.17 %**

NOTE: Does not include lease liabilities or derivatives.

7.2) Bonds

In June 2021, the new comprehensive sustainable financing strategy, offering flexibility and transparency in the issuance of financial instruments, was published to go along with the energy transition process. It is implemented through a framework (available at www.repsol.com) that incorporates both instruments for financing specific projects (green and transitional) and instruments linked to sustainable company commitments (sustainability-linked bonds, or SLBs). For more information, see section 4.3 of the 2021 consolidated Management Report.

Key issues, repurchases and redemptions carried out in 2021[15] under the EMTN program:

Changes	Date of issue	Issuer	Nominal amount (€M)	Price	Coupon %	Maturity
Issue	May-21	RIF	300	100,815%	EUR 3m + 0,7%	2023
Issue (1)	Jul-21	REF	650	99,077%	0,375%	2029
Issue (1)	Jul-21	REF	600	99,108%	0,875%	2033
Cancellation	Oct-13	RIF	1,000	n.a.	3.625%	2021

(1) First issuance of sustainability-linked bonds (SBLs) under the new sustainable financing framework.

Detail of bonds outstanding at December 31, 2021, all secured by Repsol, S.A.:

ISIN	Issuer	Date of issue	Currency	Nominal amount (millions)	Average rate %	Maturity	Listed (3)
US87425EAE32	Repsol Oil & Gas Canadá Inc.	Oct-97	Dollar	50	7.250%	Oct-27	—
US87425EAH62	Repsol Oil & Gas Canadá Inc.	May-05	Dollar	88	5.750%	May-35	—
US87425EAJ29	Repsol Oil & Gas Canadá Inc.	Jan-06	Dollar	102	5.850%	Feb-37	—
US87425EAK91	Repsol Oil & Gas Canada Inc.	Nov-06	Dollar	115	6.250%	Feb-38	—
US87425EAN31	Repsol Oil & Gas Canada Inc.	May-12	Dollar	57	5.500%	May-42	—
XS1148073205 (1)	Repsol International Finance, B.V.	Dec-14	Euro	500	2.250%	Dec-26	LuxSE
XS1207058733 (2)	Repsol International Finance, B.V.	Mar-15	Euro	1,000	4.500%	Mar-75	LuxSE
XS1352121724 (1)	Repsol International Finance, B.V.	Jan-16	Euro	100	5.375%	Jan-31	LuxSE
XS1613140489 (1)	Repsol International Finance, B.V.	May-17	Euro	500	0.500%	May-22	LuxSE
XS2035620710 (1)	Repsol International Finance, B.V.	Aug-19	Euro	750	0.250%	Aug-27	LuxSE
XS2156581394 (1)	Repsol International Finance, B.V.	Apr-20	Euro	750	2.000%	Dec-25	LuxSE
XS2156583259 (1)	Repsol International Finance, B.V.	Apr-20	Euro	750	2.625%	Apr-30	LuxSE
XS2241090088 (1)	Repsol International Finance, B.V.	Oct-20	Euro	850	0.125%	Oct-24	LuxSE
XS2343835315 (1)	Repsol International Finance, B.V.	May-21	Euro	300	EUR 3m + 0.7%	May-24	LuxSE
XS2361358299 (1) (4)	Repsol Europe Finance, S.à.r.l.	Jul-21	Euro	650	0.375%	Jul-29	LuxSE
XS2361358539 (1) (5)	Repsol Europe Finance, S.à.r.l.	Jul-21	Euro	600	0.875%	Jul-33	LuxSE

Note: Excludes perpetual subordinated bonds, which qualify as equity instruments (see Note 6.4), issued by RIF in June 2020 and March 2021 for an outstanding nominal amount at December 31 of €1,500 million and €750 million, respectively.
(1) Issues made under the EMTN Program.
(2) Subordinated bond (does not correspond to any open-ended or shelf program) with a coupon that will be revised on March 25, 2025 and March 25, 2045.
(3) LuxSE (Luxembourg Stock Exchange). Multilateral trading systems or other trading centers or non-official OTC markets are not considered.
(4) Bond linked to a target of a 12% reduction in the Carbon Intensity Indicator (CII) by 2025. If the Group fails to meet these targets, the coupon on the bonds will be increased by 0.25% (payable in 2027, 2028 and 2029).
(5) Bond linked to a target of a 25% reduction in the CII by 2030. If the Group fails to meet these targets, the coupon on the bonds will be increased by 0.375% (payable in 2032 and 2033. For information on the progress regarding the CII, see section 6.1 of the 2021 consolidated Management Report.

In 2021 Repsol Europe Finance, S.à.r.l. (REF) registered a Euro Commercial Paper (ECP) Program, underwritten by Repsol, S.A., with a limit of up to €3,000 million. RIF also runs an ECP Program, underwritten by Repsol, S.A., with a limit of up to €2,000 million. Under these programs, several issues and cancellations took place over the course of the period, with an outstanding nominal amount of €1,418 million at December 31, 2021 (€1,370 million at December 31, 2020).

[15] Key issues, repurchases or redemptions in 2020: i) in April RIF issued two series of bonds secured by Repsol, S.A. for €750 million each, maturing in December 2025 and April 2030, with fixed annual coupons of 2.000% and 2.625%, respectively; ii) in May the bond issued by RIF was canceled at maturity (nominal amount of €1,200 million and a fixed annual coupon of 2.625%); iii) in October RIF issued bonds secured by Repsol, S.A. for €850 million, maturing in October 2024 and with a fixed annual coupon of 0.125%; iv) in December the bond issued by RIF (nominal amount of €600 million and a fixed annual coupon of 2.125%) was canceled at maturity

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 REF and secured by Repsol, S.A., with an aggregate face value at year-end of €5,750 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 failure to comply with any of these covenants, the trustee, at its sole discretion or at the behest of the holders of at least one-fifth of the series of bonds affected or on the basis of an extraordinary resolution, may declare the early maturity of the bonds. In addition, the holders of these bonds may redeem them if, as a result of a change in control of Repsol, Repsol's credit ratings are downgraded to below investment grade status.

- The subordinated bonds issue by RIF and secured by Repsol, S.A. in March 2015, June 2020 and March 2021 for a total nominal value of €3,250 million, do not have early redemption covenants other than in the event of dissolution or liquidation.

At the date of authorization for issue of these consolidated Financial Statements, the Repsol Group was not in breach of any of its financial obligations or of any other obligation that could give rise to the early repayment of any of its financial commitments.

At December 31, 2021 and 2020 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.

7.3) Lease liabilities

The liabilities recognized[16] for lease payables at December 31, 2021 and 2020 amounted to €2,948[17] million and €2,991 million, respectively. The main lease agreements relate to gas transportation contracts in North America and the Group's service stations in Spain, Portugal, Peru and Mexico, which are described in Note 12.

7.4) 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.

(8) Financial assets

The breakdown of the current and non-current financial assets included under the headings of the balance sheet is as follows:

	€ Million	
	2021	**2020**
Non-current assets		
Non-current financial assets	1,249	916
Non-current trade derivatives (1)	133	47
Current assets		
Other current financial assets (2)	2,451	1,584
Current trade derivatives (3)	1,027	200
Cash and cash equivalents (4)	5,595	4,321
TOTAL	**10,455**	**7,068**

(1) Recognized under "*Other non-current assets*" on the balance sheet.
(2) The variation is due mainly to the placement of deposits during the period.
(3) Recognized under "*Trade and other receivables*" (see Note 18) in "*Other receivables*" on the balance sheet.
(4) See the statement of cash flows.

16 The liabilities recognized do not include: (i) variable lease payments, which are not significant with respect to fixed payments; (ii) the options for expanding the current portfolio of contracts for 2022-2077, the estimated future undiscounted payments of which would amount to €191 million, the most significant being the five-year extension of the lease agreement for a vessel amounting to €114 million (this does not include the optional extensions of the contracts with Emera Brunswick Pipeline and Maritimes & North East Pipeline described in Note 12 due to the low probability of execution); and (iii) the signed leases that have not yet begun, with fixed future payments amounting to €3 million in 2022 y €12 million in 2023 and subsequent years.
17 6% and 7% correspond to contracts that mature in more than 15 years in 2021 and 2020, respectively.

The detail of these assets at December 31, 2021 and 2020 is as follows:

€ Million	At fair value through profit or loss 2021	At fair value through profit or loss 2020	At fair value through other comprehensive income 2021	At fair value through other comprehensive income 2020	At amortized cost [(4)] 2021	At amortized cost [(4)] 2020	Total 2021	Total 2020
Equity instruments [(1)]	27	37	89	86	—	—	116	123
Derivatives	203	93	22	1	—	—	225	94
Loans	—	—	—	—	913	697	913	697
Time deposits	—	—	—	—	85	5	85	5
Other financial assets	24	28	—	—	19	16	43	44
Non-current	**254**	**158**	**111**	**87**	**1,017**	**718**	**1,382**	**963**
Derivatives	860	268	319	125	—	—	1,179	393
Loans	—	—	—	—	57	199	57	199
Time deposits	—	—	—	—	2,232	1,181	2,232	1,181
Cash and cash equivalents [(2)]	4	3	—	—	5,591	4,318	5,595	4,321
Other financial assets	1	—	—	—	9	11	10	11
Current	**865**	**271**	**319**	**125**	**7,889**	**5,709**	**9,073**	**6,105**
TOTAL [(3)]	**1,119**	**429**	**430**	**212**	**8,906**	**6,427**	**10,455**	**7,068**

NOTE: For the fair value hierarchy of financial assets measured at fair value, see Appendix II.
[(1)] Includes non-controlling financial investments in certain companies over which the Group does not have management influence.
[(2)] Corresponds mainly to liquid financial assets, deposits or liquid financial 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.
[(3)] Does not include "*Other non-current assets*" and "*Trade and other receivables*" in the balance sheet, which at December 31, 2021 amounted to €744 million for non-current and €7,211 million for current, while at December 31, 2020 these headings amounted to €811 million for non-current and €3,856 million for current, respectively, corresponding to trade receivables net of the related provisions for impairment.
[(4)] The items that do not accrue explicit interest are recognized at their nominal value whenever the effect of not discounting the related cash flows is not significant.

The average return on the financial assets (not including cash and cash equivalents) was accrued at an average interest rate of 3.0% and 3.9% in 2021 and 2020, respectively.

8.1) Loans

In 2021 and 2020, current and non-current loans include mainly those loans granted to companies accounted for using the equity method, which are not eliminated in the consolidation process (see Note 13), amounting to €970 million and €896 million. These included financing to joint ventures in Venezuela and the credit facility signed by Petroquiriquire, S.A., Repsol and Petróleos de Venezuela, S.A. (PDVSA).

In October 2016 Petroquiriquire, S.A., Repsol and PDVSA signed a range of agreements to shore up the financial structure of Petroquiriquire and enable it to implement its Business Plan. The agreements involved (i) the 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, from which no new drawdowns other than those already taken may be made until November 2021; and (ii) a commitment given by PDVSA to pay for hydrocarbon 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 company to meet its capital and operating expenditures 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 may 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, S.A. 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. Failure by PDVSA to comply with any 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, 2021, the cumulative drawdowns under this credit facility amounted to $839 million, with an outstanding balance at December 31, 2020 of €304 million (a gross balance of €757 million and a provision of €453 million) and €341 million at December 31, 2020 (see Note 21.3).

In addition, Repsol granted a loan to Cardón IV, which matures annually and can be extended by the shareholders (Repsol and Eni), and has been considered part of the net investment of this company (see Note 13 and Appendix II).

The maturity of these types of net financial assets is as follows:

	€ Million	
	2021	**2020**
2022		42
2023	88	52
2024	106	98
2025	93	171
2026	208	—
Subsequent years	418	334
TOTAL	**913**	**697**

(9) Derivative and hedging transactions

9.1) Accounting hedges

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 the income statement. 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. Hedges of net investments 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 transaction is disposed of, at which time they are transferred to the income statement.

The Group contracts derivatives to hedge exposure to changes in cash flows, most notably in 2021[18] and 2020:

- 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 hedges, the Group pays a weighted average interest rate of 1.762% and receives 6-month Euribor. The fair value recognized in equity, yet to be recognized in profit or loss, amounts to €-40 million after tax at December 31, 2021 (€-52 million after tax at December 31, 2020). The impact before tax recognized in the income statement in 2021 amounted to an expense of €15 million (€15 million in 2020).

- The interest rate cash flow hedge for the bond arranged by RIF in May 2021 for a notional amount of €300 million. With this instrument, the Group pays a weighted average interest rate of 0.1930% and receives 3-month Euribor plus 70 bps. At December 31, the instrument's fair value amounted to €2 million, and the impact recognized in the income statement in 2021 was not significant.

- Cash flow hedges to mitigate the risk of fluctuations in the sale and purchase price of electricity through sale and purchase agreements, respectively (long-term financial Power Purchase Agreements (PPAs) maturing between 2023 and 2036 at a fixed price). At December 31, 2021, their net notional amount totaled -11 million MWh sold (equivalent to €298 million) and their fair value at that date was not material. The impact before tax recognized in the income statement in 2021 amounted to a gain of €15 million.

- Cash flow hedges to mitigate the risk of fluctuations in the sale and purchase price of electricity with derivatives arranged maturing mainly between 2022 and 2023. At December 31, 2021, their net notional amount totaled 1.2 million MWh purchased (equivalent to €67 million) and their fair value amounted to €182 million. The impact before tax recognized in the income statement in 2021 amounted to a gain of €123 million.

- Cash flow hedges to mitigate the risk of fluctuations in the sale and purchase price of gas and the sale price of crude oil maturing in 2022 y 2024 tied to international benchmarks. At December 31, 2021, its notional amount totaled -119 million TWh sold (equivalent to €535 million) and its fair value amounted to €-59 million at year-end (€50 million at December 31, 2020). The impact before tax recognized in the income statement in 2021 amounted to an expense of €-27 million.

[18] In 2021, as a result of acquiring a 25% holding in Saint John LNG in November and the takeover of this company (see Note 2.3), the amount accrued in equity at that date (€-43 million) due to the cash flow hedge on interest rate swaps related to financing the investment in the LNG project of Saint John LNG (Canada) was taken to income in accordance with the accounting standard.

In addition, the Group maintains instruments to hedge its exposure to fluctuations in foreign exchange rates relating to the ownership interest in the net assets of foreign operations. Of note are the financial instruments designated as hedges of net investments with respect to certain dollar assets in the *Exploration and Production* segment, the notional amount of which at December 31 amounted to $3,000 million (€2,649 million). In 2020, the notional amount was $3,000 million (€2,445 million).

The instruments designated as accounting hedges at December 31, 2021 and 2020 are detailed below:

€ Million	Nominal amounts hedging instruments [(2)]		Balances of hedging instruments on the balance sheet: Non-current assets		Current assets		Non-current liabilities		Current liabilities		Total FV		Changes in FV of the hedging instrument [(3)]	
	2021	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
Cash flows:	(441)	150	22	—	319	68	(51)	(78)	(165)	(4)	125	(14)	72	44
Interest rate	326	349	2	—	—	—		(78)		(2)	2	(80)	18	(8)
Product price	(767)	(199)	20	—	319	68	(51)	—	(165)	(2)	123	66	54	52
Fair value:	—	(19)	—	1	—	1	—	—	—	—	—	2	(1)	—
Product price	—	(19)	—	1	—	1	—	—	—	—	—	2	(1)	—
Net investment:	(2,649)	(2,445)	—	—	—	56	—	—	(79)	—	(79)	56	(136)	82
Exchange rate	(2,649)	(2,445)	—	—	—	56	—	—	(79)	—	(79)	56	(136)	82
TOTAL [(1)]	(3,090)	(2,314)	22	1	319	125	(51)	(78)	(244)	(4)	46	44	(65)	126

(1) Fair value measurement methods are described in Appendix II.
(2) Instruments in US dollars translated into euros at year-end rates. In the case of product price derivatives, they correspond to the physical units at the contract price.
(3) In 2021 and 2020, the changes in fair value of the hedged items generally coincide with those of the hedging instruments, and no significant amounts were recognized due to a lack of effectiveness.

The changes relating to hedging instruments at December 31, 2021 and 2020 recognized under "*Other cumulative comprehensive income"* in the balance sheet are detailed below:

	2021		**2020**	
€ Million	Cash flow hedges	Hedges of net investments	Cash flow hedges	Hedges of net investments
Opening balance at December 31	**(62)**	**(23)**	**(109)**	**(84)**
Gains/(Losses) for measurement allocated to other comprehensive income	173	(221)	78	82
Amounts transferred to the income statement [(1)]	(40)	12	(20)	–
Translation differences	(2)	–	3	–
Share of investments in joint ventures and associates	–	–	1	–
Effective tax	(18)	55	(15)	(21)
Closing balance at December 31	**51**	**(177)**	**(62)**	**(23)**

(1) Includes mainly the allocation to income of cash flow hedges related to the transactions described above.

The cumulative balances by type of hedging instrument at December 31, 2021 and 2020 are:

	Cash flow hedging reserve and translation reserves	
€ Million	**2021**	**2020**
Cash flow hedges:	**51**	**(62)**
- Interest rate	(63)	(139)
- Product price	111	56
- Tax effect	3	21
Hedges of net investments:	**(177)**	**(23)**
- Exchange rate	(262)	(57)
- Tax effect	85	34

9.2) Other derivative transactions

Furthermore, 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 CO_2) that are not recognized as accounting hedges. These derivatives include currency forward contracts that mature in less than a year, as part of the global strategy to manage the exposure to exchange rate risk.

Additionally, the Group has entered into futures and swap contracts to hedge the product risk that derives from future physical transactions such as the sale and/or purchase of crude oil and other oil products.

The breakdown of these derivative instruments is as follows:

	Non-current assets		Current assets		Non-current liabilities		Current liabilities		Total fair value	
€ Million	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
Exchange rate	—	—	149	42	(76)	—	(36)	(242)	36	(200)
Product price	114	46	708	132	(128)	(44)	(706)	(206)	(12)	(72)
Derivatives on treasury shares	89	47	3	94	(3)	(23)	(5)	—	85	118
TOTAL	**203**	**93**	**860**	**268**	**(207)**	**(67)**	**(747)**	**(448)**	**109**	**(154)**

The breakdown, by maturity, of these derivatives at December 31, 2021 and 2020 is provided below:

€ Million	Maturity fair values											
	2021						**2020**					
	2022	**2023**	**2024**	**2025**	**Sub. years**	**Total**	**2021**	**2022**	**2023**	**2024**	**Sub. years**	**Total**
Exchange rate	**36**	**—**	**—**	**—**	**—**	**36**	**(200)**	**—**	**—**	**—**	**—**	**(200)**
Product price:	**100**	**(115)**	**3**	**—**	**—**	**(12)**	**(51)**	**(7)**	**(13)**	**(1)**	**—**	**(72)**
Purchase futures [1]	834	94	12	—	—	940	318	49	3	(1)	—	369
Sale futures [2]	(882)	(197)	(10)	(1)	—	(1,090)	(322)	(57)	(14)	—	—	(393)
Options	3	1	—	—	—	4	1	1	—	—	—	2
Swaps	195	(9)	—	—	—	186	(19)	4	(1)	—	—	(16)
Others	(50)	(4)	1	1	—	(52)	(29)	(4)	(1)	—	—	(34)
Derivatives on treasury shares	(2)	87	—	—	—	85	94	—	24	—	—	118
TOTAL	**134**	**(28)**	**3**	**—**	**—**	**109**	**(157)**	**(7)**	**11**	**(1)**	**—**	**(154)**

(1) The physical units and fair value of product and other price derivatives associated with purchase agreements are broken down below:

Purchase futures	Physical units	FV (€ Million)	Physical units	FV (€ Million)
	2021		**2020**	
EUAs CO2 (Thousand tons)	4,773	58	5,986	24
Crude oil (Thousand barrels)	41,148	316	66,396	270
Gas (TBTU)	1	—	284	1
Electricity (MWh)	3,736	480	6,244	37
Products	n.a	86	n.a	37
Total		**940**		**369**

(2) The following is a breakdown of the physical units and the fair value of the product price derivatives associated with sales contracts:

Sale futures	Physical units	FV (€ Million)	Physical units	FV (€ Million)
	2021		**2020**	
EUAs CO2 (Thousand tons)	1,763	(57)	3,524	(27)
Crude oil (Thousand barrels)	43,794	(364)	30,137	(262)
Gas (TBTU)	48	(1)	196	7
Electricity (MWh)	4,521	(580)	5,476	(33)
Products	n.a.	(88)	n.a.	(78)
Total		**(1,090)**		**(393)**

In 2021 and 2020, the negative impact of the valuation of product derivatives and CO2 prices on "*Operating income*" was €310 million and €41 million, respectively.

In 2021 and 2020, short-term forward contracts and currency swaps were arranged that generated a financial gain of €490 million and €260 million, respectively, which are recognized under "*Financial result - Change in fair value of financial instruments*".

Derivatives on treasury shares

As at December 31, 2021, Repsol had arranged derivatives on its treasury shares, which are recognized at fair value through profit or loss under "*Change in fair value of financial instruments*" in the income statement.

- Options: (i) a call option on a volume of 50 million shares at an exercise price of €8.26 per share; a put option on a volume of 25 million shares at an exercise price of €5.78 per share; and (ii) a put option sold on a volume of 25 million shares at an exercise price of €5.78 per share (collectively referred to as a "Reverse collar"). The maturity of the instrument begins on January 16, 2023 and ends on February 17, 2023 at a rate of 2 million shares per day for the call tranche and 1 million shares per day for the put tranche. The call tranche can be settled through physical delivery or financially, at the discretion of Repsol, and the put tranche can only be settled financially. The impact on the income statement amounted to €63 thousand.

  In 2021 the call options acquired in 2020 on a volume of 40 million shares were settled early, at an average exercise price of €5.9 per share. The impact on the income statement amounted to €72 million, which was recognized under "*Change in fair value of financial instruments*".

- Equity swaps: In 2021 equity swaps were arranged (with the option to settle them in favor of Repsol through physical delivery or financially) on treasury shares for a volume of 37 million shares, of which 25 million were not yet settled at year-end. The average exercise price was €10.50 per share and the contractual maturity is in July and August 2022. These instruments are measured at fair value through profit or loss under "*Change in fair value of financial instruments*" in the income statement and their impact amounted to €17 million in 2021.

(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 mitigate the risks to which the Group is exposed.

10.1) Market risk

Market risk is the potential loss faced due to adverse changes 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. This strategy is complemented with other risk management measures when required by the nature of the risk exposure. Accordingly, the risk that affects the result is subject to maximum risk levels, measured in terms of Value at Risk (VaR), defined by Repsol's Executive Committee in line with the different authorization levels and supervised on a daily basis by an area that is separate from 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 profit and equity could be affected (under "*Other comprehensive income*") as a result of the financial instruments held by the Group at the reporting date.

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. The US dollar-euro exchange rate at December 31, 2021 and 2020 was as follows:

	December 31, 2021		December 31, 2020	
	Closing rate	**Accumulated average rate**	**Closing rate**	**Accumulated average rate**
US dollar	1.13	1.18	1.23	1.14

Exposure to exchange rate risk can be traced to financial assets and investments, liabilities and monetary flows in currencies other than the functional currency of Repsol, S.A. and to the translation to euros of the financial statements of Group companies with a different functional currency.

Repsol constantly monitors the Group'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, net investment and cash flow hedges are arranged in order to ensure the carrying amount of net investments abroad, 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 flows are 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 effect on the financial instruments held by the Group at December 31, due to the appreciation or depreciation of the euro against the dollar, is illustrated below:

	Appreciation (+) / depreciation (-) in exchange rate	€ Million	
		2021	2020
Effect on net income after tax	5% (5)%	4 (3)	2 (2)
Effect on equity	5% (5)%	234 (211)	183 (166)

b) Interest rate risk

Fluctuations in interest rates can affect interest income and expense from 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 fluctuations can affect the carrying amount of assets and liabilities due to variations in the discount rates of applicable cash flows, the return on investments and the future cost of raising financial resources.

Repsol's debt is linked to the most competitive financial instruments at any given time, both in terms of the capital market and banking market, and based on those market conditions considered to be ideal for each of them. 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-rate debt issues, which are designated in general as hedging instruments (see Note 9).

At December 31, 2021 and 2020, the financing at fixed rates amounted to €7,775 million and €7,359 million, respectively. This is equivalent to 289% and 116%, respectively, of total net debt including interest rate derivative financial instruments.

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 shown in the following table:

	Increase (+) / decrease (-) in interest rates (basis points)	€ Million	
		2021	2020
Effect on net income after tax	50 b.p. -50 b.p.	19 (18)	3 (3)
Effect on equity	50 b.p. -50 b.p.	38 (39)	13 (14)

In connection with the process of transitioning to new benchmark interest rates currently under way in several jurisdictions worldwide, the Group reviewed the rates of the contracts entered into in accordance with the reform timetable affecting mainly loans and credit facilities. For more information, see Appendix II.

c) Commodity price risk

The Group's results are exposed mainly to volatility in the prices of oil, derivative products, natural gas and electricity, as well as other commodities used in its activities.

In some cases, Repsol arranges derivatives to mitigate its exposure to commodity 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, 2021 an increase or decrease of 10% in commodity prices would have approximately led to the following changes in net income and in equity as a result of changes in value in the financial derivatives.

	Increase (+) / decrease (-) in commodity prices	€ Million	
		2021	2020
Effect on net income after tax	+10%	(69)	(40)
	(10)%	69	40
Effect on equity	+10%	(35)	9
	(10)%	35	(9)

NOTE: A +/-50% change in commodity prices would have had an estimated impact of €-346 million and €346 million on net income, respectively, and €-174 million and €174 million on equity, respectively.

The sensitivity of the derivatives to increases in commodity prices partially offsets the adverse exposure of Repsol's physical operations -in inventories- inherent to its activity.

10.2) Liquidity risk[19]

The liquidity policy applied by Repsol is structured around guaranteeing the availability of the necessary funds to ensure compliance with the obligations assumed and the evolution of the Group's business plans, while maintaining 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, at December 31, 2021 Repsol had cash resources and other liquid financial instruments[20] and undrawn credit facilities that are sufficient to cover current debt maturities 2.3 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 €2,664 million and €3,425 million at December 31, 2021 and 2020, respectively. At the end of the period, liquidity stood at €10,283 million (including undrawn committed credit facilities).

The following table contain an analysis on the maturities of the financial liabilities existing at December 31, 2021 and 2020:

	Maturities (€ Million)							Maturities (€ Million)						
	2021							**2020**						
	2022	2023	2024	2025	2026	Seq	Total	2021	2022	2023	2024	2025	Seq	Total
Bonds and obligations (1)	2,050	429	979	1,878	568	3,577	9,481	2,525	622	120	970	868	6,045	11,149
Loans and other financial debts (1)	2,574	125	83	289	86	652	3,809	872	639	110	2,914	193	331	5,059
Lease payments (1)	530	476	402	363	326	1,899	3,996	524	446	416	365	333	2,039	4,123
Derivatives (2)	(19)	(70)	16	15	13	129	84	(64)	—	24	—	—	—	(40)
Suppliers	5,548	—	—	—	—	—	5,548	2,471	—	—	—	—	—	2,471
Other payables	5,289	—	—	—	—	—	5,289	3,356	—	—	—	—	—	3,356

NOTE: The amounts shown are the contractual undiscounted cash flows and, therefore, they differ from the amounts included on the balance sheet.
(1) Corresponds to future maturities of amounts recognized under "*Non-current financial liabilities*" and "*Current financial liabilities*", including interest related to these 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 "*Other non-current liabilities*" and "*Other payables*" on the balance sheet.

[19] For information on the definitions of the liquidity and solvency ratios and their reconciliations to the Alternative Performance Measures, see Appendix II of the 2021 consolidated Management Report.
[20] Includes on-demand deposits recognized under "*Time deposits*" amounting to €2,024 million.

10.3) Credit risk[21]

EXPECTED LOSS:

The Group calculates the expected credit loss on its **trade receivables** using its own risk assessment models for its customers, taking into account the probability of default, the balance at risk and the estimated loss given default. The general criteria for considering objective evidence of impairment (in the absence of other evidence of default such as bankruptcy, etc.) is that it has exceeded 180 days in default.

The remaining **financial instruments**, mainly certain loans and financial guarantees granted to joint ventures, are individually monitored.

The expected loss on financial instruments is calculated based on the stage of the debtor's credit risk in accordance with the following formula:

Expected credit loss	=	Probability of default (1)	x	Exposure (2)	x	LDG (3)

Phase 1: At the time of initial recognition, expected loss is calculated taking into account the probability of default in the first 12 months (for trade receivables, the calculation is spread over the life of the instrument).

Phase 2: When there is a significant increase in risk, expected loss is calculated for the entire life of the instrument.

Phase 3: For instruments that are already impaired, expected loss is calculated for the entire life of the instrument with effective interest on amortized cost net of the amount of the impairment.

(1) Calculated individually for each debtor except for individuals, for whom an average default rate is used. The models take into account quantitative information (economic-financial variables of the customer, payment behavior, etc.), qualitative information (sector of activity, macroeconomic data on the country, etc, and market sensitivity variables (e.g. price performance). An internal rating and an associated probability of default are obtained for each debtor, according to the models.

(2) Calculated taking into account the amount of the outstanding receivable and a potential future exposure according to the available risk limit.

(3) Percentage of unrecovered exposure in the event of default, based on the historical behavior and taking into account whether or not such exposure is guaranteed.

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 Company updated its customer management model using economic forecasts for the main countries where it operates, without this having a significant impact on the Group's financial statements from a change in the payment behavior of debtors.

For credit risk arising from financial instruments relating to operations in Venezuela, see Note 21.3.

The Group's exposure to credit risk, according to the type of financial instrument together with the impairment recognized at December 31, 2021 for each of them, is broken down as follows:

	Gross balance	Average impairment	Impairment	Net balance 12/31/2021	Net balance 12/31/2020
Current financial assets and Cash (1)	8,047	—	(1)	8,046	5,905
Non-current financial assets (2)	3,686	63,6%	(2,343) (3)	1,343	1,171
Other current and non-current assets (4)	2,239	46 %	(1,036) (4)	1,203	1,096
Trade and other receivables (5)	8,424	2,2%	(186)	8,238	4,056

(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). The Group's cash surplus is used to acquire safe and liquid short-term instruments, including short-term bank deposits and other instruments with similar low-risk characteristics. The portfolio of these investments is diversified to avoid a concentration of risk in any one instrument or counterparty.
(2) This heading is presented in the balance sheet net of the provision for the equity deficit of Cardón IV (see Note 15).
(3) Includes assets impaired in Phase III (see "*Expected loss*" in the table above). The impairment losses at December 31, 2021 relate mainly to ongoing litigation and bankruptcy proceedings (€1,733 million) and to loans and credit facilities granted to joint ventures in Venezuela (€524 million).
(4) Includes mainly assets impaired in Phase III corresponding primarily to accounts receivable related to activity in Venezuela (see Notes 20.5 and 21.3).
(5) See the following section "*Trade and other receivables*".

[21] 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 "*Net income 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.

Trade and other receivables

The trade receivables are shown on the balance sheet at December 31, 2021 and 2020, net of provisions for impairment, for an amount of €8,238 million and €4,056 million, respectively. This heading increased mainly due to greater activity in all businesses (higher sales), as a result of higher demand due to fewer restrictions on mobility, and higher prices. The following table shows the age of the trade receivables net of provisions for impairment (including expected loss):

	€ Million			
	2021			2020
Maturities	Debt	Impairment	Balance	Balance
Unmatured debt	8,086	(75)	8,011	3,889
Matured debt 0-30 days	149	(5)	144	100
Matured debt 31-180 days	39	(5)	34	25
Matured debt over 180 days	150	(101)	49	42
TOTAL	**8,424**	**(186)**	**8,238**	**4,056**

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 after its trade receivables have become impaired, including official bodies and public sector entities, does not exceed 1.8%.

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

As part of its business activities, the Group has guarantees extended by third parties in an amount of €3,833 million at December 31, 2021 and €3,264 million at December 31, 2020. Of this balance, the trade receivables secured by guarantees stood at €1,313 million at December 31, 2021 and €821 million at December 31, 2020.

NON-CURRENT ASSETS AND LIABILITIES

(11) Intangible assets

The breakdown of the intangible assets and of the related accumulated amortization and impairment losses at December 31, 2021 and 2020 is as follows:

	€ Million								
		Exploration and Production			Industrial, and Commercial and Renewables			Corporate	
GROSS COST	Goodwill	Exploration permits	Computer software	Other assets	Service station association rights and other rights[4]	Computer software	Concessions and others	Computer software and others	**Total**
Balance at January 1, 2020	**3,197**	**2,685**	**218**	**91**	**306**	**461**	**760**	**328**	**8,046**
Investments [1]	—	82	14	8	30	57	87	31	309
Disposals or reductions	—	(564)	(2)	(1)	(22)	(9)	—	(11)	(609)
Translation differences	(192)	(193)	(19)	(7)	(9)	(7)	(2)	—	(429)
Change in scope of consolidation	4	(3)	—	—	—	2	38	—	41
Reclassifications and other [2]	3	16	4	(2)	10	41	(384)	4	(308)
Balance at December 31, 2020	**3,012**	**2,023**	**215**	**89**	**315**	**545**	**499**	**352**	**7,050**
Investments [1]	—	54	5	200	28	56	26	50	419
Disposals or reductions	(2)	(70)	(3)	—	(14)	(24)	(2)	—	(115)
Translation differences	203	160	18	7	4	6	1	—	399
Change in scope of consolidation	(38)	(5)	—	—	(11)	(4)	23	—	(35)
Reclassifications and other	(14)	12	2	(4)	(10)	31	(148)	—	(131)
Balance at December 31, 2021	**3,161**	**2,174**	**237**	**292**	**312**	**610**	**399**	**402**	**7,587**
ACCUMULATED AMORTIZATION AND IMPAIRMENT LOSSES									
Balance at January 1, 2020	(1,026)	(1,486)	(143)	(73)	(176)	(225)	(188)	(259)	(3,576)
Amortization	—	(56)	(21)	—	(26)	(48)	(30)	(27)	(208)
Disposals or reductions	—	564	2	—	13	9	—	10	598
(Provision for)/Reversal of provisions for impairment [3]	(667)	(101)	—	—	—	—	(1)	—	(769)
Translation differences	97	89	13	7	2	3	1	—	212
Changes in scope of consolidation	—	2	—	—	—	(1)	—	—	1
Reclassifications and other	6	32	2	(8)	5	—	15	(7)	45
Balance at December 31, 2020	**(1,590)**	**(956)**	**(147)**	**(74)**	**(182)**	**(262)**	**(203)**	**(283)**	**(3,697)**
Amortization	—	(24)	(19)	—	(27)	(66)	(14)	(31)	(181)
Disposals or reductions	—	69	2	—	14	22	2	—	109
(Provision for)/Reversal of provisions for impairment [3]	—	(211)	—	—	—	—	—	—	(211)
Translation differences	(120)	(83)	(13)	(6)	(1)	(3)	(1)	—	(227)
Changes in scope of consolidation	38	5	—	—	9	2	11	—	65
Reclassifications and other	—	10	2	—	12	(39)	67	—	52
Balance at December 31, 2021	**(1,672)**	**(1,190)**	**(175)**	**(80)**	**(175)**	**(346)**	**(138)**	**(314)**	**(4,090)**
Net balance at December 31, 2020	**1,422**	**1,067**	**68**	**15**	**133**	**283**	**296**	**69**	**3,353**
Net balance at December 31, 2021	**1,489**	**984**	**62**	**212**	**137**	**264**	**261**	**88**	**3,497**

[1] Investments in 2021 and 2020 come from the direct acquisition of assets. Investments in "*Exploration permits*" mainly refer to the acquisition of acreage and geological and geophysical costs in the amount of €54 million and €82 million in 2021 and 2020, respectively. In 2021, "*Other non-current assets*" in the Exploration and Production segment included the investment in gas assets in production from the US gas company Rockdale Marcellus for €196 million.
[2] In 2020, "*Reclassifications and other*" includes mainly the reclassification of CO_2 emission allowances to inventories (see Note 17.
[3] For more information, see Note 21. At December 31, 2021 and 2020, cumulative provisions for impairment losses amounted to €2,136 million and €1,916 million, respectively (mainly impairment losses on "*Goodwill*", see the section below).

Repsol has taken out insurance to cover potential security incidents that could occur in its IT system, including computer software, due to malicious acts (cyber-attacks) or accidents that cause the system to be unavailable.

Goodwill

The breakdown of goodwill, by segment and company, at December 31, 2021 and 2020 is as follows:

Goodwill	€ Million 2021	2020
Upstream [1]:	1,051	983
Commercial and Renewables [2]:		
Repsol Portuguesa, S.A.	154	154
Repsol Gas Portugal, S.A.	106	106
Repsol Comercial de Productos Petrolíferos, S.A.	105	104
Repsol Comercializadora de Electricidad y Gas, S.L.U.	49	49
Other companies[2]	24	26
TOTAL [3]	**1,489**	**1,422**

(1) Includes mainly the goodwill arising from the acquisition of ROGCI in 2015, which for the purpose of assessing its recoverability was allocated to the Exploration and Production segment.
(2) Corresponds to a total of 8 CGUs, with the most significant individual amount not exceeding 10% of the Group's total. Of the total, €436 million and €438 million in 2021 and 2020 relate to companies that mainly carry out business in Europe. For more information on the calculation of the recoverable amount, see Note 21.
(3) Includes €1,672 million and €1,590 million in accumulated impairment losses in 2021 and 2020, respectively.

Repsol considers that, based on current knowledge, reasonably foreseeable changes in the key assumptions for determining the recoverable amount of the CGUs (10% decrease in hydrocarbon prices, 5% decrease in sales volume, 5% increases in operating or investment costs, 5% decreases in unit contribution margins or increases in the discount rate of 100 basis points) to which goodwill has been allocated would not have a significant impact on the Group's financial statements at December 31, 2021 as a result of calculating the recoverable amount of this 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, 2021 and 2020 is as follows:

	€ Million								
	Exploration and Production			Industrial, and Commercial and Renewables				Corporate	
GROSS COST	Investments in areas with reserves	Investments in exploration	Other property, plant and equipment	Land, buildings and other constructions	Machinery and plant	Other property, plant and equipment	Property, plant and equipment in progress (4)	Land, construction and others	**Total**
Balance at January 1, 2020	**25,263**	**3,135**	**902**	**2,515**	**21,871**	**1,679**	**901**	**1,065**	**57,331**
Investments	467	121	146	—	7	6	986	17	1,750
Disposals or reductions	(8)	(643)	(39)	(14)	(141)	(32)	(4)	(27)	(908)
Translation differences	(2,126)	(181)	(82)	(55)	(274)	(54)	(5)	—	(2,777)
Change in scope of consolidation	—	(390)	—	—	—	—	—	—	(390)
Reclassifications and other (1)	49	25	9	76	942	78	(858)	2	323
Balance at December 31, 2020	**23,645**	**2,067**	**936**	**2,522**	**22,405**	**1,677**	**1,020**	**1,057**	**55,329**
Investments	458	117	65	1	7	11	968	17	1,644
Disposals or reductions	(269)	(11)	(19)	(28)	(238)	(62)	(18)	(17)	(662)
Translation differences	1,877	165	72	31	231	51	4	—	2,431
Change in scope of consolidation	(251)	(1)	(10)	8	(92)	40	—	—	(306)
Reclassifications and other (1)	(1,032)	(24)	(147)	(383)	462	11	(762)	(32)	(1,907)
Balance at December 31, 2021	**24,428**	**2,313**	**897**	**2,151**	**22,775**	**1,728**	**1,212**	**1,025**	**56,529**
ACCUMULATED DEPRECIATION AND IMPAIRMENT LOSSES									
Balance at January 1, 2020	**(14,965)**	**(2,506)**	**(382)**	**(1,312)**	**(13,843)**	**(673)**	**—**	**(505)**	**(34,186)**
Depreciation (2)	(877)	(20)	(44)	(60)	(845)	(112)	—	(41)	(1,999)
Disposals or reductions	7	643	28	12	125	29	—	22	866
(Provision for)/Reversal of provisions for impairment (3)	(1,350)	(13)	(5)	—	152	(18)	—	(2)	(1,236)
Translation differences	1,404	119	32	42	172	19	—	—	1,788
Changes in scope of consolidation	—	390	—	—	—	—	—	—	390
Reclassifications and other (1)	7	(13)	5	(4)	315	(334)	—	(1)	(25)
Balance at December 31, 2020	**(15,774)**	**(1,400)**	**(366)**	**(1,322)**	**(13,924)**	**(1,089)**	**—**	**(527)**	**(34,402)**
Depreciation (2)	(677)	(24)	(41)	(58)	(880)	(107)	—	(36)	(1,823)
Disposals or reductions	228	11	13	25	232	76	—	14	599
(Provision for)/Reversal of provisions for impairment (3)	(109)	(34)	(14)	8	51	(34)	—	(23)	(155)
Translation differences	(1,264)	(108)	(27)	(20)	(134)	(24)	—	—	(1,577)
Changes in scope of consolidation	237	1	9	(3)	40	23	—	—	307
Reclassifications and other (1)	1,244	(2)	101	407	439	41	—	18	2,248
Balance at December 31, 2021	**(16,115)**	**(1,556)**	**(325)**	**(963)**	**(14,176)**	**(1,114)**	**—**	**(554)**	**(34,803)**
Net balance at December 31, 2020	**7,871**	**667**	**570**	**1,200**	**8,481**	**588**	**1,020**	**530**	**20,927**
Net balance at December 31, 2021	**8,313**	**757**	**572**	**1,188**	**8,599**	**614**	**1,212**	**471**	**21,726**

(1) In 2021 and 2020 this item included reclassifications from "*Property, plant and equipment in progress*" mainly to "*Machinery and plant*", as a result of several upgrade, repair and remodeling projects of the Group's refineries, and in 2021 due to the entry into operation of the Kappa and Valdesolar projects (see Note 2.3). In addition, in 2021 this includes reclassifications from "*Investment in areas with reserves*" to "*Non-current assets held for sale*" corresponding to the assets in Malaysia and Ecuador (see Note 16).
(2) See the table below in this section for the measurement and useful life of the items of property, plant and equipment.
(3) See Note 21. At December 31, 2021 and 2020, the impairment losses on the assets came to €6,103 million and €6,679 million, respectively, corresponding mainly to the impairment on "*Investments in areas with reserves*" (€5,288 million and €5,186 million in 2021 and 2020, respectively) and "*Machinery and plant*" (€450 million and €836 million in 2021 and 2020, respectively).
(4) In 2021 and 2020, includes property, plant and equipment in progress corresponding to investments in the industrial complexes of the Refining and Chemicals businesses, mainly in Spain and, to a lesser extent, in Peru and Portugal, in addition to the investments that Repsol is making in wind and solar power projects in Spain.

The breakdown, by geographical area, of the Group's most significant investments is detailed in sections 4 and 5.1 of the 2021 consolidated Management Report which is presented using the Group's reporting model.

"*Property, plant and equipment*" includes investments made by the Group in service concession arrangements in the amount of €249 million and €247 million at December 31, 2021 and 2020, respectively. These concessions revert to the State over a period of time ranging from 2022 to 2084.

As a general rule, non-current assets are depreciated on a straight-line basis over their estimated useful lives. The estimated useful lives of the main assets are detailed below:

Estimated useful life	Years
Buildings and other constructions	20-50
Machinery and plant:	
Machinery, plant and tools	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 plant	18-40
- Gas and electricity infrastructure and distribution	12-40
Transport elements	5-20
Other property, plant and equipment:	
- Furniture and fixtures	9-15

In relation to the connection rights of service stations, their ownership is conditional on the life of the contracts that give rise to them, which are amortized on a straight-line basis over the term of each contract (between 25 and 30 years).

See Note 3.7 for the estimated useful life of the items of property, plant and equipment related to hydrocarbon exploration and production activities.

In addition, the estimated useful life for the rest of the Group's industrial and commercial facilities and plants did not have to be changed as a result of the expected impact of the energy transition on the demand for our products.

The figures corresponding to non-depreciable assets, i.e., land and property, plant and equipment in progress, amount to €581 million and €1,522 million at December 31, 2021, respectively, and €584 million and €1,284 million at December 31, 2020, respectively.

"*Property, plant and equipment*" includes fully depreciated items in the amount of €10,020 million and €9,497 million at December 31, 2021 and 2020, respectively.

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

The breakdown of and changes in the right-of-use assets, as well as their accumulated depreciation, are as follows:

€ Million	Machinery and plant	Transport elements	Buildings	Land	Other	Total
Balance at January 1, 2021	**1,489**	**256**	**110**	**185**	**1**	**2,041**
Acquisitions	197	36	41	27	193	494
Disposals and reductions	(12)	(2)	—	(1)	—	(15)
Depreciation	(41)	(70)	(28)	(17)	(25)	(181)
Translation differences and other	(152)	(12)	(7)	(13)	(12)	(196)
Balance at December 31, 2020	**1,481**	**208**	**116**	**181**	**157**	**2,143**
Acquisitions	163	26	(58)	52	44	227
Disposals and reductions	—	—	(3)	—	—	(3)
Depreciation	(153)	(63)	(29)	(16)	(29)	(290)
Translation differences and other	(14)	8	16	(16)	18	12
Balance at December 31, 2021	**1,477**	**179**	**42**	**201**	**190**	**2,089**

The most significant lease agreements are as follows:

- Agreement with Emera Brunswick Pipeline Company, Ltd. for the transportation of natural gas through a pipeline that connects the Saint John LNG plant with the US border for a period of 25 years (renewable for up to an additional 30 years). The lease came into effect in July 2009. At December 31, 2021, the rights of use under this agreement were provisioned in full and the future payments recognized as financial liabilities amounted to $406 million (€358 million).

- Agreement with Maritimes & North East Pipeline for the transportation of Canadian natural gas from the Canadian border to Dracut (USA) for an initial term of 25 years (renewable for up to an additional 30 years). The agreement initially came into effect in March 2009. At December 31 2021, the corresponding rights of use amounted to €493 million[22] and the future payments recognized as a financial liability were $880 million (€777 million).

- For the service stations that the Group has in Spain, Portugal, Peru and Mexico, lease agreements are signed for various concepts and with varying terms. At December 31, 2021, the corresponding rights of use amounted to €963 million and the future payments recognized as financial liabilities were €952 million.

(13) Investments accounted for using the equity method

Movement in this heading during 2021 and 2020 was as follows:

	€ Million	
	2021	**2020**
Opening balance for the year	5,897	7,237
Net investments	19	10
Changes in scope of consolidation	145	54
Net income from investments accounted for using the equity method (1)	301	(609)
Dividends paid out (2)	(266)	(202)
Translation differences	220	(473)
Reclassifications and other movements (Note 7.1)	(2,762)	(120)
Balance at year end	**3,554**	**5,897**

(1) The increase is mainly due to those businesses whose activity has been favored by the increase in prices during the period. This heading does not include "*Other comprehensive income*" amounting to €219 million in 2021 (€205 million corresponding to joint ventures) and €-484 million in 2020 (€-472 million corresponding to joint ventures), mainly as a result of translation differences.
(2) In 2021 this corresponds mainly to RSB (€155 million), YPFB Andina (€29 million) and Sierracol Energy Arauca (€29 million), and in 2020 it related mainly to Repsol Sinopec Brasil (RSB) and Dynasol.

In 2021 "*Reclassifications and other*" includes the amount for the year corresponding mainly to the allocation of financial assets of Repsol Sinopec Brasil, B.V. (a joint venture 60% owned by Repsol and 40% owned by the Sinopec group) to the partners. In 2020 this mainly included the reclassification of the equity deficit of Petroquiriquire and Cardón (see "*Carrying amount of interests in joint ventures*" below).

[22] Provisions of €64 million recognized for rights of use.

In 2021 "*Changes in scope of consolidation*" includes the acquisition of a 40% holding in Hecate Energy Group LLC, a company that operates in the renewable energy market in the United States and specializes in the development of photovoltaic and battery projects for energy storage with a project portfolio of more than 40 GW. This heading also includes the sale of the ownership interest in AR Oil & Gaz, B.V. in Russia (joint venture formed with Alliance Oil).

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

	€ Million	
	Carrying amount of the investment [2]	
	2021	**2020**
Joint ventures	3,349	5,757
Associates [1]	205	140
TOTAL	**3,554**	**5,897**

[1] This mainly includes the interest in Hecate Energy Group LLC and Oleoducto de Crudos Pesados (OCP) Ltd.
[2] In 2021, €2,737 million correspond to Exploration and Production (€5,448 million in 2020).

On the basis of the shareholders agreements signed at each company, where strategic, operational and financial decisions require the unanimous consent of the parties sharing control, these companies are considered joint ventures provided they are not a joint operation The most significant joint ventures are:

Repsol Sinopec Brasil (RSB)

Repsol holds a 60% interest in Repsol Sinopec Brasil, S.A. and Repsol Sinopec Brasil B.V (through Repsol Upstream, B.V. and Repsol Exploraçao Brasil, Ltda., respectively, both wholly owned by Repsol, S.A.), which were included in the tables below together with RSB. The remaining 40% of these companies corresponds to Tiptop Luxembourg, S.A.R.L.

This company's main businesses are hydrocarbon exploration, production and sale. It operates mainly in Brazil.

For the guarantees granted by the Group to RSB, see Note 26.

YPFB Andina, S.A.

Repsol holds a 48.33% interest in YPFB Andina, S.A., through Repsol Bolivia, S.A., with the other shareholders being YPF Bolivia (51%) and non-controlling shareholders (0.67%). It engages mainly in hydrocarbon exploration, operation and sale. It operates mainly in Bolivia.

BPRY Caribbean Ventures, LLC. (BPRY)

Repsol holds a 30% interest in the share capital of BPRY Caribbean Ventures LLC through Repsol Exploración, S.A. The remaining 70% is owned by British Petroleum Ltd. This company and its subsidiaries mainly engage in hydrocarbon exploration, operation and sale, and other related activities in Trinidad and Tobago.

Petroquiriquire, S.A.

Repsol has a 40% interest in Petroquiriquire, S.A. through Repsol Exploración, S.A. Petroquiriquire is a public-private venture, partly held by Corporación Venezolana de Petróleo, S.A. (CVP) 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 21.3.

Cardón IV, S.A.

Repsol has a 50% interest 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 21.3.

Repsol Sinopec Resources UK Ltd. (RSRUK)

A company held by Talisman Colombia Holdco, Ltd, a subsidiary of the Repsol Group, and by Addax Petroleum UK Limited ("Addax"), a subsidiary of the Sinopec group, with a 51% and 49% interest, respectively. The company mainly engages in hydrocarbon exploration and operation in the North Sea. For information on the arbitration procedure concerning the purchase by Addax of its 49% interest in RSRUK, see Note 15.

The tables below provide a summary of the financial information for these investments, prepared in accordance with EU-IFRS accounting policies, as detailed in Note 3 and its reconciliation with the carrying amount of the investment in the consolidated financial statements:

Income from joint ventures:

	RSB		YPFB Andina		BPRY		Petroquiriquire		Cardón IV		RSRUK	
€ Million	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
Revenue	1,358	810	148	165	1,599	768	206	78	636	589	887	646
Amortization and impairment (1)	(331)	(361)	(118)	(138)	(841)	(2,060)	(298)	78	(54)	(193)	(496)	(876)
Other operating income/ (expenses)	(434)	(251)	(86)	(108)	(791)	(591)	(53)	(26)	(158)	(146)	(535)	(428)
Operating income	**593**	**198**	**(56)**	**(81)**	**(33)**	**(1,883)**	**(145)**	**130**	**424**	**250**	**(144)**	**(658)**
Net interest	18	128	2	4	(77)	(73)	(38)	(40)	(64)	(106)	8	18
Financial result	(66)	(30)	(11)	(8)	(23)	(29)	11	1	(22)	3	(46)	(68)
Net income from investments accounted for using the equity method-net of taxes	—	6	2	14	—	—	—	—	—	—	—	—
Net income before tax	**545**	**302**	**(63)**	**(71)**	**(133)**	**(1,985)**	**(172)**	**91**	**338**	**147**	**(182)**	**(708)**
Tax expense	(212)	(240)	13	15	52	499	73	(196)	5	184	96	232
Net income attributable to the parent	**333**	**62**	**(50)**	**(56)**	**(81)**	**(1,486)**	**(99)**	**(105)**	**343**	**331**	**(86)**	**(476)**
Repsol interest	60 %	60 %	48 %	48 %	30 %	30 %	40 %	40 %	50 %	50 %	51 %	51 %
Consolidation income	**200**	**37**	**(24)**	**(27)**	**(24)**	**(446)**	**(40)**	**(42)**	**171**	**166**	**(44)**	**(243)**
Dividends	**155**	**34**	**29**	**41**	—	—	—	—	—	—	—	—
Other comprehensive income (2)	**121**	**(373)**	**27**	**(35)**	**5**	**1**	**(37)**	**38**	**(13)**	**27**	**45**	**(57)**

Note: The amounts itemized below feature the Group's percentage of ownership interest in each of the companies:
(1) Includes impairment losses on assets at BPRY, YPFB Andina and RSRUK, and due to credit risk, mainly at Cardón IV and PQQ (see Note 21).
(2) Relates to "*Valuation gains/(losses)*" and "*Amounts transferred to the income statement*" in the statement of recognized income and expense.

Carrying amount of interest in joint ventures:

	RSB		YPFB Andina		BPRY		Petroquiriquire		Cardón IV		RSRUK	
€ Million	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
Assets												
Non-current assets	3,903	8,366	686	699	2,934	3,191	4	106	636	739	3,068	2,921
Current assets	638	476	268	280	650	427	589	345	537	389	1,555	1,093
Cash and cash equivalents	273	132	23	41	110	89	—	12	7	3	65	71
Other current assets (1)	365	344	245	239	540	338	589	333	530	386	1,490	1,022
Total Assets	**4,541**	**8,842**	**954**	**979**	**3,584**	**3,618**	**593**	**451**	**1,173**	**1,128**	**4,623**	**4,014**
Liabilities												
Non-current liabilities	1,940	1,780	237	210	2,251	2,420	712	736	652	1,113	2,929	2,730
Financial liabilities	939	997	—	—	1,139	1,117	706	652	446	826	64	58
Other non-current liabilities	1,001	783	237	210	1,112	1,303	6	84	206	287	2,865	2,672
Current liabilities	423	396	56	55	1,094	895	1,131	772	709	523	539	159
Financial liabilities	195	126	—	—	693	587	52	11	1	7	20	32
Other current liabilities (1)	228	270	56	55	401	308	1,079	761	708	516	519	127
Total Liabilities	**2,363**	**2,176**	**293**	**265**	**3,345**	**3,315**	**1,843**	**1,508**	**1,361**	**1,636**	**3,468**	**2,889**
NET ASSETS	**2,178**	**6,666**	**661**	**714**	**239**	**303**	**(1,250)**	**(1,057)**	**(188)**	**(508)**	**1,155**	**1,125**
Repsol interest	60 %	60 %	48 %	48 %	30 %	30 %	40 %	40 %	50 %	50 %	51 %	51 %
Share in net assets (2)	1,307	4,000	317	343	72	91	(500)	(423)	(94)	(254)	589	574
Goodwill	—	—	—	—	—	—	—	—	—	—	—	—
Carrying amount of the investment	**1,307**	**4,000**	**317**	**343**	**72**	**91**	—	—	—	—	**589**	**574**

Note: The amounts itemized below feature the Group's percentage of ownership interest in each of the companies:
(1) With regard to Petroquiriquire, other current assets and liabilities include the offsetting of reciprocal claims and debts with PDVSA under the agreed terms.
(2) Petroquiriquire: in 2021 and 2020 a provision was recognized for contingencies and charges amounting to €500 million and €423 million at December 31, respectively, corresponding to the equity deficit of Petroquiriquire (see Note 15).

Cardón IV: The value of the investment is made equal to zero by deducting the carrying amount from the loan granted to Cardón IV (the balance of which, net impairment, at December 31, 2021 and 2020 amounted to €166 million and €255 million, respectively, and which is considered a net investment (see Note 8.1)).

Regarding joint arrangements and associates that are material or of significant relative importance: (i) there are no applicable legal restrictions on the capacity to transfer funds to Repsol, (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) Other non-current assets

In 2021 and 2020, this heading mainly included accounts receivable from PDVSA in Venezuela (see Notes 21.3) amounting to €344 million, net of impairment losses (€293 million in 2020) and the deposits associated with the decommissioning of Exploration and Production assets ("*sinking funds*") amounting to €59 million (€154 million in 2020), mainly in Indonesia, as well as derivatives on non-current trade receivables (see Note 8).

(15) Current and non-current provisions

Repsol makes judgements and estimates that affect the recognition and measurement of provisions for litigation, decommissioning and other contingencies. The final cost of settling complaints, claims and litigation may vary from the estimates previously made due to differences in the identification of dates, interpretation of rules, technical opinions and assessments of the amount of damages and liabilities.

The calculations to recognize provisions for the cost of decommissioning its hydrocarbon production operations are complex, on account of the need to initially 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 used as a result 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 decommissioning 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 used by the Group was 3.4%.

The decommissioning provisions associated with refineries and petrochemical facilities are generally not recognized, as the potential obligations cannot be measured, given their undetermined settlement dates. The Group regularly reviews its refineries and long-lived petrochemical assets to detect changes in facts and circumstances that may require the recognition of a decommissioning provision.

Additionally, Repsol makes judgements and estimates in recognizing costs and establishing provisions for environmental clean-up and remediation costs, which are based on current information regarding costs and expected plans for remediation based on applicable laws and regulations, the identification and assessment of the effects on the environment, as well as applicable technologies.

Therefore, any change in the factors or circumstances related to provisions of this nature, as well as changes in laws and regulations, could therefore have a significant effect on the provisions recognized.

15.1) Provisions

At December 31, 2021 and 2020, the balance of these headings and the changes therein are as follows:

	€ Million Provisions for current and non-current contingencies and charges				
	Asset decommissioning [3]	Onerous contracts [4]	Legal contingencies	Other provisions [5]	Total
Balance at January 1, 2020	**1,870**	**420**	**948**	**1,539**	**4,777**
Provisions charged to income [1]	84	20	14	370	488
Provisions reversed with a credit to income	(22)	(33)	(5)	(21)	(81)
Cancellation due to payment	(54)	(47)	(11)	(86)	(198)
Changes in scope of consolidation	(2)	—	—	(28)	(30)
Translation differences, reclassifications and other [2]	(103)	(30)	(55)	(456)	(644)
Balance at December 31, 2020	**1,773**	**330**	**891**	**1,318**	**4,312**
Provisions charged to income [1]	85	42	73	680	880
Provisions reversed with a credit to income	(10)	(8)	(10)	(13)	(41)
Cancellation due to payment	(101)	(39)	(43)	(79)	(262)
Changes in scope of consolidation	(17)	(323)	—	(2)	(342)
Translation differences, reclassifications and other [2]	(21)	19	(132)	(125)	(259)
Balance at December 31, 2021	**1,709**	**21**	**779**	**1,779**	**4,288**

[1] In 2021 and 2020, this line item included €59 million and €75 million, respectively, reflecting the discounting to present value of provisions and "*Other provisions*" included the provision corresponding to the use of CO2 allowances (see Note 30) for €479 million and €281 million, respectively.

(2) In 2021 "*Asset decommissioning*" included the reclassifications to "*Liabilities associated with non-current assets held for sale*" in the balance sheet (see Note 16). In 2021 and 2020 "*Other provisions*" included the derecognition of the CO2 allowances used amounting to €469 million and €281 million (see Note 30) and the adjustment for the loss on the investments in Petroquiriquire and Cardón IV (see Note 13).
(3) In 2021, a change in the discount rate of +/- 50 basis points would decrease/increase provisions by €-114 million and €121 million.
(4) In 2021, "*Changes in scope of consolidation*" includes mainly the derecognition of the provision for the onerous consideration following the acquisition of 25% of Saint John LNG once the obligation is extinguished at Group level (see Note 2.3).
(5) "*Other provisions*" includes mainly those recognized to cover obligations arising from environmental clean-up and remediation costs (see Note 30), pension commitments (see Note 28), use of CO2 allowances (see Note 30), employee incentive schemes (see Note 28), provisions for tax risks not related to income tax (see Note 23), provisions for workforce restructuring and other provisions to cover obligations arising from the Group's interests in companies. The tax provisions related to income tax are presented under "*Deferred tax liabilities and other*" in the balance sheet (see Note 23).

The following table provides an estimate of maturities of provisions at year-end 2021:

	Due dates[1] € Million			
	Less than one year	From 1 to 5 years	> 5 years and/or undetermined	Total
Provisions for field decommissioning	87	239	1,383	1,709
Provision for onerous contracts	5	12	4	21
Provision for legal and tax contingencies	—	462	317	779
Other provisions	932	754	93	1,779
TOTAL	**1,024**	**1,467**	**1,797**	**4,288**

(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 depending on the circumstances on which these estimates are based.

15.2) Disputes

The amounts 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 from past events.

At December 31, 2021, Repsol's balance sheet includes provisions for litigation in the ordinary course of its activities totaling €834 million (€946 million at December 31, 2020). The most significant legal or arbitration proceedings and their status as of the date of authorization for issue of these consolidated Financial Statements 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. (currently "ROGCI") and Talisman Colombia Holdco Limited ("TCHL") in connection with the purchase of 49% of the shares of TSEUK (currently Repsol Sinopec Resources UK Limited "RSRUK"). On October 1, 2015, ROGCI and TCHL submitted the answer to the "Notice of Arbitration". On May 25, 2016, Addax and Sinopec formalized the arbitration claim, in which they requested that, in the event that their claims are upheld in full, they be paid the amount of their initial investment in RSRUK, materialized in 2012 through the purchase of 49% of this from TCHL, a wholly-owned subsidiary of ROGCI, together with any additional investment, past or future, in such company, as well as any loss of opportunity that could have occurred, which is estimated to be a total figure of approximately $5,500 million.

The dispute relates to events that took place in 2012, prior to Repsol's acquisition of Talisman in 2015 -and that does not involve any actions by Repsol.

ROGCI and TCHL asked the Arbitral Tribunal to dismiss the claims of Addax and Sinopec based on contractual guarantees. On August 15, 2017, the Arbitral Tribunal issued a First Partial Award dismissing Addax and Sinopec warranty claims.

The Arbitral Tribunal decided, among other procedural matters, to split the procedure into two phases: the first addressing liability and the second dealing with the amount of any liability found that, where appropriate, would have been determined.

The five main matters in dispute are Reserves, Production, Abandonment, Projects and Maintenance.

In 2018, the oral hearing on matters of liability was held and the conclusions of the parties were presented.

On January 29, 2020, the Arbitral Tribunal issued its second Partial Award on Reserves, determining that ROGCI and TCHL are liable to Sinopec and Addax with regard to this matter. On April 28, 2020, Repsol challenged this second partial award in the Singapore courts, as the case had been transferred to the Singapore International Commercial Court (SICC). A ruling is expected to be handed down on this appeal in the third quarter of 2022.

On April 20, 2021 the Arbitral Tribunal issued a Third Partial Award with regard to the remaining issues pending to be decided in the liability phase, whereby it declared that TCHL and ROGCI were liable for the matter related to Production — which overlaps with what was already decided in the previous award on Reserves — and dismissed the claims of Addax and Sinopec regarding the remaining matters (Abandonment, Projects and Maintenance). On July 19, 2021, ROGCI and TCHL challenged this Third Partial Award before the Singapore courts.

Following this Award, the arbitration process will continue in its quantification phase, and a decision is not expected to be handed down before the fourth quarter of 2023.

The Third Partial Award has dismissed most of the claims of Addax and Sinopec and allows for a better estimate of the liabilities that could arise from this litigation. Therefore, a new assessment has been carried out of the provision necessary to cover the corresponding risks and, as a result of the analysis performed by the company and its lawyers and external advisors, the provision initially recognized has been reduced. The Company considers that the information above is sufficient in accordance with paragraph 92 of IAS 37 "*Provisions, Contingent Liabilities and Contingent Assets*", as further details on its estimates could harm the development and outcome of the litigation.

In addition, on November 30, 2017 Repsol, S.A. commenced arbitration proceedings against China Petroleum Corporation and TipTop Luxembourg S.A.R.L (Sinopec Group companies) seeking relief from any adverse ruling on the arbitration mentioned above together with other damages yet unquantified. The Tribunal issued an award dismissing Repsol claim. This decision does not have any impact in the risk assessment and the provision of the Addax arbitration.

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. 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. (currently 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 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") demanding, among other things, that Repsol and YPF be held liable for Maxus' debts ("Alter Ego"). 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. In February 2015, Repsol file a claim against OCC for the $65 million that it had to pay to the State of New Jersey.

On April 5, 2016 the Presiding Judge decided to dismiss OCC's suit against Repsol in full. On June 17, 2016 Maxus filed for bankruptcy with the Federal Bankruptcy Court of the State of Delaware, and also requested the stay of the Cross Claim. On October 19, 2017, the Presiding Judge upheld Repsol's claim against OCC in full, ordering OCC to pay $65 million plus interest and costs.

On September 14, 2018, Maxus (declared by the Federal Bankruptcy Court of Delaware, the successor to OCC -its main creditor- as the claimant in the Cross Claim) filed an appeal against the ruling handed down in these proceeding, and that rejected the claim between Maxus and Repsol. At the same time, OCC filed an appeal against the claim ordering them to pay the $65 million that Repsol had to pay to the State of New Jersey. On December 27, 2021 the New Jersey Appellate Division reversed the decisions of the Trial Court, accepting the appeals of Maxus and OCC. This opinion does not find Repsol liable, but only remands the case to the Trial Court as it considers that a Summary Judgment could not be granted in this stage of the proceeding.

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. In February 2019, the Federal Bankruptcy Court rejected the petitions submitted by Repsol requesting that the Court reject the New Claim from the outset, which implies that the proceedings will be ongoing.

Repsol maintains the view, as has been shown in the Cross Claim, that the claims made in the New Claim and in the Insurance Claim are unfounded.

On December 10, 2019, the bankruptcy managers of Maxus filed an Insurance Claim in Texas against Greenstone Assurance Limited (a historical captive reinsurance company of the Maxus Group and currently 100% owned by Repsol - "Greenstone"), claiming that this company would be required to pay Maxus compensation for the liabilities arising from the indemnity granted to OCC, by virtue of alleged insurance policies issued by Greenstone between 1974 and 1998.

Repsol continues to maintain the view that the claims asserted in the Insurance Claim are unfounded. However, the parties have reached an agreement for an amount of $25 million. The settlement agreement was executed on March 25, 2021, with the parties then filing a joint application with the court to file the matter on March 26, 2021, which was approved and agreed to be filed on April 9, 2021.

CURRENT ASSETS AND LIABILITIES

(16) Non-current assets held for sale and associated liabilities

The main line items of assets classified as held for sale and associated liabilities in the consolidated balance sheet at December 31, 2021 are as follows:

€ Million	12/31/2021
Non-current assets	407
Current assets	198
Assets	**605**
Non-current liabilities	(213)
Current liabilities	(217)
Liabilities	**(460)**
NET ASSETS	**145**

These line items mainly include production assets in Malaysia (including interests in blocks PM3 CAA, Kinabalu and PM305/314) and in Ecuador (blocks 16 and 67) of the Exploration and Production segment, the sale of which was pending due to certain conditions precedent as of December 31, 2021. These assets were sold in 2022 as described in Note 32, without any significant impact on the Group's financial statements.

(17) Inventories

Inventories are measured at the lower of their cost (calculated based on the weighted average cost) and their net realizable value. Commodities related to trading activity are measured at fair value less costs to sell and changes in value are recognized in the income statement.

The breakdown of "Inventories" at December 31, 2021 and 2020 is as follows:

	€ Million	
	2021	**2020**
Crude oil and natural gas	1,713	1,130
Finished and semi-finished products	2,918	1,653
Materials and other inventories [1]	596	596
TOTAL [2]	**5,227**	**3,379**

[1] Includes zero-cost CO_2 allowances for a total of €260 million (equal to 7,574 thousand tons).
[2] Includes inventory write-downs of €48 million and €38 million at December 31, 2021 and 2020, respectively. The write-downs recognized and reversed amounted to €-15 million and €7 million, respectively (€-8 million and €20 million in 2020).

At December 31, 2021 the balance of commodities, related to trading activity, amounted to €342 million, and the effect of their measurement at market value represented income of €4 million. The fair value is calculated using forward price curves provided by the market depending on the time horizon for the transactions. The main variables used are: prices taken from official publications (Platt's, Argus, OPIS, brokers, etc.) and historic or mark-to-market premiums, if available.

The higher inventory balances are mainly explained by the increase in average Brent crude oil prices (+70% / +$29.1/bbl).

At December 31, 2021 and 2020 the Repsol Group complied with the legal requirements regarding minimum safety stocks established under prevailing legislation (see Appendix IV) through its Spanish Group companies.

(18) Trade and other receivables

The breakdown of this heading at December 31, 2021 and 2020 is as follows:

	€ Million	
	2021	**2020**
Trade receivables for sales and services (gross amount)	5,972	3,046
Impairment	(186)	(210)
Trade receivables for sales and services	**5,786**	**2,836**
Receivables from operating activities and other receivables	693	597
Receivables from operations with staff	47	41
Public administrations	215	202
Trade derivatives (Note 9)	1,027	200
Other receivables	**1,982**	**1,040**
Current tax assets	**470**	**180**
Trade and other receivables	**8,238**	**4,056**

This heading increased mainly due to greater activity in all businesses (higher sales) as a result of the increase in demand due to fewer restrictions on mobility and higher prices.

(19) Trade and other payables

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

	€ Million	
	2021	**2020**
Suppliers	**5,548**	**2,471**
Payables and others	3,783	2,611
Payables to public administrations	635	537
Derivative financial instruments (Note 9)	871	208
Other payables	**5,289**	**3,356**
Current tax liabilities	**386**	**72**
TOTAL	**11,223**	**5,899**

"*Trade and other payables*" increased due to greater activity (higher volume of purchases) in line with the increase in trade and other payables.

Information on the average period of payment to suppliers in Spain

The disclosures made in respect of the average period of payment for trade payables in Spain are presented in accordance with that established in applicable law.

	Days	
	2021	**2020**
Average period of payment to suppliers (PMP) [(1)]	30	28
Ratio of transactions paid [(2)]	30	28
Ratio of transactions payable [(3)]	30	30
	Amount (€ Million)	
Total payments made	11,733	10,752
Total payments outstanding	460	283

(1) PMP = ((Ratio of transactions paid * total payments made) + (Ratio of transactions payable * total payments outstanding)) / (Total payments made + total payments outstanding).
(2) Σ (Number of days of payment * amount of the transaction paid) / Total payments made.
(3) Σ (Number of days outstanding * amount of the transaction payable) / Total payments outstanding.

In accordance with the transitional provisions of Law 15/2010, the maximum legal payment deadline is 60 days.

INCOME

(20) Operating income

On the same date as these consolidated Financial Statements, Repsol published its 2021 consolidated Management Report, which includes an explanation of performance results and other aggregates.

20.1) Sales and income from services rendered

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 in exchange for these goods and services. There are five distinct steps 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.

Most of the Group's business contracts have a single performance obligation that is fulfilled with the delivery of the product, which takes place at a specific point in time. At December 31, there were no relevant performance obligations outstanding with customers.

In sales in which the Group acts as an agent, the Group only recognizes the net interest margin as revenue.

With regard to excise duties (tax on hydrocarbons), this is a single-phase tax and the company assumes the same repercussions as the holder of the tax warehouse (normally CLH), and Repsol subsequently transfers this cost to its customers as part of the price of the product. In other words, Repsol does not act as a mere collection agent for the Spanish Tax Agency as it is not a tax that can be recovered from the tax authorities (for example, in the event of non-payment by the end customer), but rather a tax for which the Group assumes all the risks (for example, also in the event of the destruction or loss of the product) and rewards, and therefore in essence constitutes a production cost to be recovered, where appropriate, through the sale of the product, with the company being free to set the sales price. This is why Repsol considers the tax on hydrocarbons to be a cost incurred and, symmetrically, as an increase in revenue from sales.

In Exploration and Production, income was mainly generated either from the sale of crude oil, condensates and liquefied natural gas and natural gas, or from the provision of hydrocarbon operation services, depending on the contracts in force in each of the countries in which the Group operates. In the Industrial segment, income is generated mainly from the sale of oil products (petrol, fuel oil, LPG, asphalt, lubricants, etc.), petrochemical products (ethylene, propylene, polyolefins and interim products). With regard to Commercial and Renewables, income is generated mainly from the sale of oil products and other services at service stations and the sale of gas (natural gas and LNG) and electricity.

The distribution, by country, of income from ordinary activities ("Sales" and "*Income from services rendered*") by segment in 2021 and 2020 is as follows:

	2021	2020
Exploration and Production	5,009	2,963
Industrial	39,582	25,142
Commercial and Renewables	21,680	16,315
Corporate	(16,526)	(11,138)
TOTAL	**49,745**	**33,282**

Note: Includes excise duties levied on hydrocarbon consumption amounting to €5,216 million and €5,033 million in 2021 and 2020, respectively.

The increase in income in 2021 is explained by: (i) the increase in crude oil and gas realization prices in the Exploration and Production productive businesses, (ii) the increase in demand and prices of oil and petrochemical products in Industrial, (iii) the increase in sales in the commercial businesses, as a result of the increase in demand due to fewer restrictions on mobility and higher fuel prices, and (iv) the start-up of new renewable electricity generation assets.

The distribution, by country, of income from ordinary activities in 2021 and 2020 is shown below:

	2021	2021
Spain	24,335	17,088
United States	3,347	1,988
Peru	2,464	1,672
Portugal	2,976	1,912
Other	16,623	10,622
TOTAL (1)(2)	**49,745**	**33,282**

(1) The distribution by geographical area has been drawn up based on the markets to which the sales or income relate.
(2) The distribution of the target markets is as follows: i) EU euro zone: €32,832 million (€22,464 million in 2020), ii) EU non-euro zone: €90 million (€488 million in 2020) and iii) Other countries: €16,823 million (€10,330 million in 2020). In 2021 the income corresponding to the United Kingdom is included under "Other countries" following its departure from the EU on January 31, 2020 (in 2020 it was included under "EU non-euro zone").

20.2) Changes in inventories of finished goods and work in progress

The income recognized under this heading is explained by the increase in prices for finished goods in the period.

20.3) Other operating income

This heading includes, inter alia, income recognized on the remeasurement of trade derivatives (see Note 9), income from the zero-cost CO2 emission allowances used (see Note 30.1) and the reversal of provisions taken to the income statement (see Note 15). This heading also includes operating grants amounting to €15 million and €18 million in 2021 and 2020, respectively.

20.4) Procurements

This heading includes the following items:

	€ Million	
	2021	2020
Purchases	38,502	24,158
Changes in inventories (raw materials and goods held for sale)	(1,054)	677
TOTAL	**37,448**	**24,835**

The higher costs recognized under "*Procurements*" were mainly due to the higher volume of purchases as a result of increased activity and the increase in the price of raw materials for the industrial complexes.

This heading includes excise duties levied on hydrocarbon consumption mentioned in "*Sales and income from services rendered*" of this Note.

20.5) (Charges for)/Reversal of impairment

These headings include the following items:

	€ Million	
	2021	2020
Impairment charges of assets (Notes 10.3, 18 and 21)	(1,185)	(2,494)
Reversal of impairment (Note 21)	522	335
TOTAL	**(663)**	**(2,159)**

20.6) Personnel expenses

"*Personnel expenses*", the balance of which was slightly less than in 2020, includes the following items:

	€ Million	
	2021	2020
Remuneration and other	1,364	1,407
Social security costs	438	438
TOTAL	**1,802**	**1,845**

20.7) Exploration expenses

Hydrocarbon exploration expenses in 2021 and 2020 amounted to €367 million and €253 million, of which €53 million and €86 million are recognized under "*Amortization and depreciation of non-current assets*" and €245 million and €116 million under "*(Charges for)/Reversal of impairment*" in 2021 and 2020, respectively.

The geographical distribution of the costs taken to the income statement in respect of exploration activities is as follows:

	€ Million	
	2021	**2020**
Europe	59	105
America	303	60
Africa	1	24
Asia	4	64
Oceania	—	—
TOTAL	**367**	**253**

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

20.8) Gains/(losses) on disposal of assets

In 2021 the gains (€115 million) and losses (€-105 million) on the disposal of assets correspond mainly to the sale of the ownership interest in AR Oil & Gaz, B.V. (AROG) in Russia, the sale of the Tin Fouyet Tabenkor (TFT) asset in Algeria and block 15/02 in Vietnam, the sale of the fuel business in Italy and the sale of land in LPG businesses (see Note 2.3).

20.9) Transport and freights, supplies and other operating expenses

The expenses recognized under "*Transport and freight*" decreased as a result of lower prices in the freight market in 2021 and less activity in the Trading business.

The expenses recognized under "*Supplies*" rose as a result of higher gas and electricity prices.

Moreover, "*Other operating expenses*" includes the following items:

	€ Million	
	2021	**2020**
Operator expenses (1)	589	559
Services of independent professionals	434	439
Leases (2)	113	125
Taxes (3)	486	325
Taxes on production	181	73
Other	305	252
Repair and upkeep (4)	270	258
Measurement of trade derivatives (5)	970	139
Use of CO_2 allowances (6)	479	281
Others (7)	1,293	1,299
TOTAL	**4,634**	**3,425**

Note: In order to minimize transport costs and optimize the Group's logistics chain, oil product exchanges of a similar nature are carried out with other companies in different geographical locations. These transactions are not recognized in the income statement for the year as individual purchases and sales, but rather any economic differences are recognized at their net amount.

(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) In 2021, it included expenses for short-term and low-value leases (€87 million) and for variable payments (€26 million).
(3) They correspond to taxes other than income tax (see Note 23). Taxes on hydrocarbon production in Exploration and Production activities have been paid mainly in Libya, Algeria and Peru. The other taxes reflect mainly local taxes. For further information on taxes paid, see section 6.7 of the 2021 consolidated Management Report and the Report on Payments to Governments published by the Company.
(4) Relates to repair, upkeep and maintenance activities carried out mainly at the Group's industrial complexes.
(5) Relates mainly to derivatives arranged in trading activities involving crude oil, gas, oil products and electricity (see Note 9).
(6) See Note 30.1.
(7) Includes, among others, the period provisions.

The increase in "*Taxes*" is explained by greater activity and the increase in prices. The increase in "*Repair and upkeep*" in 2021 is mainly due to increased activity at industrial complexes. The increase in expenses recognized under "*Measurement of trade derivatives*" is mainly explained by the higher valuation of derivatives and commitments over commodities as a result of the increase in the price of crude oil and oil products. "*Use of CO2 allowances*" rose as a result of greater activity at industrial complexes and the increase in the price of CO2 allowances (see Note 30.2).

20.10) Research and development

Research expenses incurred are recognized under "*Other operating expenses*" as expenses for the year and development expenditure is capitalized only if all the conditions established in the accounting standard of reference are met.

The expense recognized in the income statement in connection with research and development activities amounted to €57 million in 2021 and €65 million in 2020. The capitalized expenses corresponding to development activities amounted to €24 million in 2021.

(21) Asset impairment

Impairment test

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 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 prior date could have disappeared or decreased, a new estimate is given for the recoverable amount of the corresponding asset, and, if applicable, the impairment losses recognized in previous years are reversed. An impairment loss of goodwill cannot be reversed in subsequent years.

If a previously recognized impairment loss is reversed, the carrying amount of the asset is increased to the revised estimate of its recoverable amount, up to the limit of the carrying amount that would have been recorded had no impairment loss on the value of the asset been recognized in previous periods.

Cash-generating units

For the impairment test, assets are grouped into cash-generating units (CGUs) if, when individually considered, they 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 judgements and the determination, among other criteria, of the business units and geographical areas in which the Group 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 case of the Industrial, and Commercial and Renewables segments, the CGUs correspond to activities (mainly Refining, Chemicals, Wholesale and Trading Gas, Mobility, LPG, Lubricants, Asphalts and Specialized Products, Electricity Generation and Sale) and geographical areas. In 2021 there were no significant changes in the composition of the CGUs.

Goodwill acquired on a business combination is allocated among the CGUs or groups of CGUs that benefit from the synergies of the business combination, up to the limit of the business segment.

Calculating the recoverable amount

The recoverable amount is the higher of fair value less costs to sell 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. For specific information on the methodology for calculating the recoverable amount, see Note 3.6.

21.1) Asset impairment test

The Group has assessed the recoverable amount of its cash-generating units as per the methodology described in Note 3 and the scenarios consistent with its new vision of the market, the expected environment and its strategy. The main assumptions are described below:

a) Future price paths:

In 2020, in view of the situation in the commodity markets, the social and economic consequences of the COVID-19 pandemic and the foreseeable development of the energy transition given the risk of climate change, the Group reviewed its expectations of future oil and gas prices, modifying the price paths defined at the end of 2019 to bring them into line with the new scenario.

In view of the upward trend in commodity markets, influenced by the more optimistic outlook for economic recovery from the consequences of the pandemic and the influence on markets of transition policies in countries such as China, the US and the EU, in 2021 the Group increased its near-term expectations for future crude oil and gas prices. It should be noted that these estimates were made in an environment of high uncertainty, marked by the scenarios of recovery from the COVID-19 crisis, by the dynamics of the energy transition and decarbonization of the economy and, in short, by their possible impacts on the Oil & Gas markets.

The new assumptions for the main price references are:

Real terms 2020	2022-2050[1]	2022	2023	2024	2025	2026	2027-2050[2]
Brent ($/ barrel) [3]	62	69	67	66	68	68	60
WTI ($/ barrel)	59	66	64	63	65	65	58
HH ($/ Mbtu) [3]	2.9	3.6	3.3	2.9	3.0	3.0	2.8
Electricity pool (€/MWh) [4]	52	108	85	80	67	59	46

[1] Average prices for the 2022-2050 period.
[2] Average prices for the 2027-2050 period.
[3] For the purpose of preparing the 2021-2025 Strategic Plan published in November 2020, constant Brent and Henry Hub prices of $50/barrel and $2.5/ Mbtu, respectively, were used to demonstrate the Company's ability to meet its intended shareholder remuneration even in acidic scenarios, which do not necessarily coincide with the Company's view of future crude oil and gas prices, which are those considered when testing for impairment, as explained in Note 3.6.
[4] Electricity pool prices in Spain. In 2021 the Group significantly increased the electricity pool prices. Pool prices rose by +228% in 2021 mainly as a result of the significant increase in gas and CO2 prices.

With regard to CO2 prices, the most significant for the Group are those of the current EU ETS mechanism (see Note 30.1). For these purposes, the price of emission allowances, in nominal terms, is estimated for the 2022-2026 period to be $70.2/ Tn, $70.8/Tn, $70.8/Tn, $72.0/Tn and $75.6/Tn, respectively ($99.4/Tn for the 2022-2050 period and $105.1/Tn for the 2027-2050 period). In 2021 the Group significantly revised CO2 prices upwards as a result of the more ambitious decarbonization targets announced by Repsol and those set by the European Union (55% -Fit for 55-), as well as the price increase in 2021 (+105%).

These assumptions consider the implementation of the public policies and commitments aimed at boosting the pace of the decarbonization of the economy to achieve the climate change objectives of the Paris Summit Agreement and sustainability goals of the UN. They represent a commitment to the decarbonization of the economy and, therefore, assume the restriction on the use of fossil fuels and the development of new alternative technologies that drive the energy transition; this will mean a reduction in the demand for hydrocarbon products in the medium and long term should be noted. This will require companies to have a strategy in place to adapt to the energy transition that Repsol has already begun.

b) Discount rates:

The discount rate used by Repsol is the weighted average cost of capital employed after tax for each country and business. This rate seeks to reflect current market assessments with regard to the time value of money and the specific risks of the business. Therefore, the discount rate used takes into account the risk-free rate, the country risk, the currency in which the cash flows are generated and the market, credit and business risk. For more information, see Note 3.6.

	2021	2020
EXPLORATION AND PRODUCTION [1]		
Latin America	7.1% - 37.6%	7.2% - 37.6%
Europe and North Africa [3]	6.9% - 13.7%	7.0% - 18.6%
North America	7.4% - 7.6%	7.5% - 7.6%
Asia and Russia	7.4% - 8.6%	7.4% - 9.2%
INDUSTRIAL [2]	5.0% - 9.2%	4.6% - 8.4%
COMMERCIAL AND RENEWABLES [2]	5.0% - 8.6%	4.2% - 9.7%

[1] Discount rates in US dollars.
[2] Discount rates in euros and US dollars
[3] The higher range is reduced by the rate corresponding to Libya due to the reduction of risk in the country.

c) Impairment recognized

In 2021 impairment losses were recognized for the Group's assets in these balance sheet headings:

€ Million	Notes	Total
Other intangible assets [(1)]	11	(184)
Property, plant and equipment [(1)]	12	(120)
Investments accounted for using the equity method [(2)]	13	(232)
Deferred tax assets	23	(318)
Other		(10)

[(1)] Does not include impairment losses on unsuccessful exploratory investments recognized in the normal course of operations (see Note 20.7) amounting to €-26 million (recognized under "*Other intangible assets*")and €-3 million (recognized under "*Property, plant and equipment - Investments in exploration*"), or those recognized in divestment processes during the period (apart from the annual calculation of the recoverable amount of the assets).
[(2)] Before tax.

Impairment, net of reversals, amounted to €-864 million before tax (€-672 million after tax)[23].

Exploration and Production assets

The Group has recognized net impairment losses[24] in relation to the assets of the Exploration and Production segment amounting to €-547 million, before tax, which affect:

- Production assets (€-347 million), mainly in: (i) Europe (€-183 million), mainly in the United Kingdom and Norway, due to higher investments and operating expenses —inflation and costs linked to decarbonization—, and project delays; and (ii) Latin America (€-162 million), mainly in Trinidad and Tobago, and Bolivia, due to less activity resulting from the natural decline of assets.

- Exploration and development assets (€-188 million), mainly in the United States, as a result of the future developments of the energy transition, which does not allow a favorable conclusion to be drawn on the commercial viability of certain bonds and capitalized wells.

The recoverable amount of assets impaired in the period stood at €10,271 million. The carrying amount of the cash-generating units of the segment[25] after recognizing the impairment stood at €12,857 million.

Industrial and Commercial assets

With regard to the rest of the assets of the Industrial, and Commercial and Renewables segments, the new scenarios assumed, in the context of decarbonization and the energy transition, consider an environment marked by a reduction in the demand for oil products and fuels, and an increase in the expected cost of CO_2 emissions. The quality of the assets and the capacity of the business models to adapt to the new environment and the new strategic approach means that, even in the new and demanding scenarios, no impairment losses were observed during the year.

Other

In 2021 deferred tax assets in Canada and Spain were reduced by €-318 million (see Note 23).

[23] In 2020 provisions, net of reversals, amounted to €3,016 million before tax (€2,774 million after tax).
[24] This relates to the impairment losses recognized under "*Goodwill*", "*Other intangible assets*", "*Property, plant and equipment*" and "*Investments accounted for using the equity method*" before tax.
[25] Includes investments accounted for using the equity method. Does not include goodwill or the carrying amount of exploratory assets.

21.2) Sensitivities

The changes in estimated future prices or discount rates used would affect the amount of the impairment of the Repsol Group assets. The main sensitivities to these variations without taking into account the rebalancing of other related variables or the possible adjustments of the operational plans, which would allow the negative impact of the above-mentioned variations to be mitigated, are indicated in the table below:

		€ Million (1)	
	Increase (+) / decrease (-)	Operating income	Net income
Change in hydrocarbons prices	+10%	975	956
	(10)%	(952)	(857)
Change in hydrocarbons production	5%	430	450
	(5)%	(465)	(485)
Change in hydrocarbons prices and production	+10%	1,926	1,865
	(10)%	(2,060)	(1,907)
Changes in the margins of Industrial, and Commercial and Renewables	5%	42	31
	(5)%	(179)	(134)
Change in discount rate	+100 b.p.	(265)	(233)
	-100 b.p.	292	257

(1) Includes impact on investments accounted for using the equity method.

21.3) Geopolitical risks

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.) and that may have a negative impact on its business.

According to the ratings in the Country Risk Rating of IHS Global Insight, among others, the Repsol Group is exposed to a particular geopolitical risk mainly in Venezuela, Libya and Algeria.

Venezuela

Repsol has a presence in Venezuela through its shareholdings in mixed oil companies and gas licensees. The current situation of crisis in the country generates increased 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 and trade receivables, it is necessary to use certain hypotheses and assumptions (such as asset development plans, compliance with the agreements signed and changes in the environment), which involves judgements and estimates that may vary from those initially made (see Notes 10 and 13).

Repsol's equity exposure[26] in Venezuela at December 31, 2021 amounted to €298 million, (€320 million at December 31, 2020), which includes mainly the financing granted to its Venezuelan subsidiaries (see Note 8 and 14).

The situation of political instability, economic recession (GDP[27] dropped by 5% in 2021) and inflation (686%[28] in 2021 and it is expected to be 730% in 2022) continued in 2021 and, therefore, the State of Exception and Economic Emergency was extended several times — the last Presidential Decree No. 4,440 was published in Official Gazette No. 6,615, dated February 23, 2021 — for a period of sixty days. Oil production has declined significantly in recent years. There was a significant devaluation of the Venezuelan currency against the euro (€5.211/BsS compared to €1.359/BsS at December 31, 2020, the SIMECA[29] exchange rate) with no significant impact on the Group's financial statements, since the functional currency of its subsidiaries in the country is the US dollar, except in the case of Quiriquire Gas[30] (see Note 13).

With regard to international sanctions affecting the Venezuelan government and PDVSA and its subsidiaries, on November 24, 2021 the US government announced that the General License 8H (now 8I) of the Office of Foreign Assets Control (OFAC)

[26] Equity exposure relates to the value on the Group's balance sheet of net consolidated assets exposed to own risks of the countries reported.
[27] Source: Estimate from the International Monetary Fund.
[28] National Price Index of the National Assembly (INPCAN).The Central Bank of Venezuela has not officially released a cumulative inflation figure since 2016.
[29] SMC (Foreign Exchange Market System) reference exchange rate.
[30] The functional currency of Quiriquire Gas is the bolivar (the carrying amount of the investment is non-existent, so any effect arising from the translation of the bolivar to the euro is not significant).

would be extended with regard to the oil company Chevron and four other US companies in the hydrocarbon sector. However, although these companies will not be able to extract, sell or transport Venezuelan oil, hire additional personnel or pay any dividends to PDVSA or its subsidiaries, they will be able to continue activities aimed at limited maintenance of their operations that are essential for the security or preservation of the assets until June 1, 2022.

Repsol has adopted the measures necessary to continue its activity in Venezuela, with full respect of the applicable international regulations regarding sanctions, including US regulations in relation to Venezuela, and is constantly monitoring their development and, therefore, any possible effects they may have on these activities. However, if the current situation continues over the long term or if there are further changes in US policies, our activities in Venezuela could be affected.

The Group assesses the recoverability of its investments and the credit risk on accounts receivable from PDVSA.

With regard to financial instruments, expected loss is calculated by considering the cash flow scenarios expected for the business, weighted by their estimated probability. Three LGD 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 (Moody's Report: "*Sovereign Default and Recovery Rates 1983-2020*") and Management's expectations. The estimation of the cash flow scenarios is consistent with those used for the purpose of calculating the recoverable amount of the assets. 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 judgements.

As a result, in 2021 the Group recognized impairment for the credit profile of PDVSA and for the deterioration of the business environment in Venezuela, which affects the value of the financing instruments and accounts receivable from PDVSA (€-223 million)[31] as well as the value of the investments accounted for using the equity method (€-129 million).

Libya

Repsol's equity exposure in Libya as of December 31, 2021 amounts to about €344 million (including primarily property, plant and equipment at that date).

Repsol has operated in Libya since the 1970s when it started exploring in the Sirte Basin. As of December 31, 2021, Repsol has acreage on two contractual areas (exploration and production activities) located in the Murzuq basin in the Sahara desert, with estimated reserves amounting to 100.18 million barrels of oil equivalent at December 31, 2021.

Following the joint declaration of a ceasefire agreed between the GNA (government officially established in Tripoli and supported by the United Nations) and the LNA (Libyan National Army) with the endorsement of the international community in September 2020, in February 2021 the Libyan Political Dialogue Forum (LDPF) was able to create a transitional government that will lead the country until elections, which are currently set for the first half of 2022.

Production in 2021 at El Sharara Field was not affected by any interruptions until December 20, when it had to be shut down due to safety conditions. Production resumed on January 10, 2022 following an agreement reached by the Prime Minister with the Petroleum Facilities Guard (one of the militias protecting the field). Repsol's net crude oil production in 2021 amounted to 34.2 thousand barrels of oil per day (vs. 9.35 thousand barrels of oil per day during the same period in 2020).

Algeria

Repsol's equity exposure in Algeria at December 31, 2021 amounted to around €505 million (including mainly property, plant and equipment at that date).

Repsol now has two blocks in Algeria in the production/development phase (Reggane Nord and block 405a —with the MLN, EMK and Ourhoud licenses—), once the *Tin Fouyé Tabankort* (TFT) asset was sold in June 2021 (see Note 2.3).

Net average production in Algeria in 2021 came to 19.7 thousand barrels of oil equivalent per day (25.9 kboe in 2020) from Reggane Nord and block 405a (in 2020 this also included the production of TFT).

The estimated net proved reserves at December 31, 2021 amount to 23.3 million barrels of oil equivalent. Around 50% of the net proved reserves refer to the gas production project at Reggane, which is located in the Algerian Sahara in the Reggane

[31] Recognized under "*(Provision for)/Reversal of provisions for impairment*" (credit risk, see Notes 10.3 and 20.5) and "*Impairment of financial instruments*" (see Note 22) in the income statement.

basin. Repsol holds a 29.25% interest 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%).

Following the election of Abdelmayid Tebboune in the elections called in December 2019, Algeria started a process of political and economic reform.

(22) Financial result

The financial result has improved compared to 2020 mainly due to better results from one-off dollar/euro exchange rate and treasury share positions (derivatives on treasury shares, see Note 9), as well as lower interest rates on debt.

The breakdown of financial income and expenses in 2021 and 2020 is as follows:

€ Million	**2021**	**2020**
Financial income	82	96
Financial expenses	(234)	(340)
Net interest (1)	**(152)**	**(244)**
By interest rate	32	29
By exchange rate	459	(293)
Other positions	153	116
Change in fair value of financial instruments (2)	**644**	**(148)**
Exchange gains/(losses) (3)	**(131)**	**406**
Impairment of financial instruments	**27**	**57**
Adjustment for provision discounting	5	(82)
Interim interest	77	86
Interest on leases (4)	(172)	(200)
Gains/(losses) on disposal of financial instruments	—	—
Others	(27)	(16)
Other financial income and expenses	**(117)**	**(212)**
FINANCIAL RESULT	**271**	**(141)**

(1) Includes interest income from financial instruments valued at amortized cost in the amount of €82 million (€96 million in 2020). Financial expenses decreased as a result of lower volume and borrowing costs (see Note 7.1).
(2) Includes the results from the valuation and settlement of derivative financial instruments (see Note 9). "*Other provisions*" includes the results from the valuation and settlement of derivatives on treasury shares (see Notes 6.2 and 9).
(3) Includes the exchange gains and losses generated by the valuation and settlement of monetary items in foreign currency. The change compared to 2020 is explained by the varying performance of the dollar exchange rate on financing instruments in both periods.
(4) Corresponds to the financial discounting of lease liabilities.

(23) Taxes

The appropriate assessment of the income tax expense is dependent on several factors, including estimates on the timing and realization of deferred tax assets and the timing of income tax payments. Collections and payments may be materially different from these estimates as a result of changes in the expected performance of the Company's businesses or in tax regulations or their interpretation, as well as unforeseen future transactions that impact the Company's tax balances

Deferred tax assets are only recognized when it is considered 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.

Deferred tax assets are reviewed when there are indications of impairment, and in any event once a year, to verify that they still qualify for recognition and they are considered to be recoverable in the future, and the appropriate adjustments are made on the basis of the outcome of the analyses performed. These analyses are based on: (i) assumptions made to analyze the existence or otherwise of sufficient future earnings for tax purposes that might offset the tax losses or apply existing tax credits, based on the approach used to ascertain the presence of indications of impairment on its assets; (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.

23.1) Applicable taxes

With regard to taxation and, particularly, income tax, the 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 companies comprising the Group.

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 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.

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. This Consolidated Tax Group was composed of 97 companies in 2021, the most significant of which are: Repsol, S.A., Repsol Petróleo, S.A., Repsol Trading, S.A., Repsol Química, S.A., Repsol Butano, S.A., Repsol Comercial de Productos Petrolíferos, S.A., Repsol Exploración, S.A., Repsol Exploración Murzuq, S.A., Repsol Generación Eléctrica, S.A. and Repsol Renovables, S.L.U.

Accordingly, Petróleos del Norte, S.A. (Petronor) is the company representing Consolidated Tax Group 02/01/B, to which the special regional corporation tax regulations of Vizcaya are applicable. In 2021 this tax group included subsidiaries, among others, such as Repsol Customer Centric, S.L. (the company that channels the Repsol Group's holdings in the Customer business) and Repsol Industrial Transformation, S.L. (the company that brings together the Group's subsidiaries in the Industrial business).

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 have been taxed at the general rate of 25% in 2021, 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 regime of Vizcaya, is taxed at 24%.

In December 2021, Law 22/2021, on the General State Budget for 2022, amended the Corporate Income Tax Law, effective as of January 1, 2022, introducing a minimum income tax rate of 15% to the taxable base, which implies an additional limitation on the application of tax credits for Tax Group 6/80 in future years.

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 income tax rate in force under applicable local tax regulations. Group companies in some countries are also subject to a tax on their presumed minimum 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, with the permanent establishments of the Spanish companies that carry out hydrocarbon exploration and production activities in other countries (including Algeria, Ecuador, Indonesia, Libya or Peru).

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

Country	Tax rate	Country	Tax rate
Algeria [(1)]	38 %	Norway	78 %
Bolivia	25 %	Netherlands	25 %
Brasil	34 %	Peru	29.5 %
Canada [(2)]	24.6 %	Portugal	22.5% - 31.5%
Colombia	32 %	United Kingdom	40 %
Ecuador	25 %	Russia	20 %
United States [(3)]	21 %	Singapore	17 %
Indonesia	32.5% - 44%	Trinidad and Tobago	55% - 57.2%
Libya	65 %	Venezuela	34% (Gas) and 50% (Oil)
Malaysia	38 %	Vietnam	32% - 50%
Mexico	30 %		

(1) Plus tax on exceptional profits (TPE).
(2) Federal and provincial rate.
(3) Does not include state taxes.

23.2) Accrued income tax expense

The table below shows how the accrued income tax expense for accounting purposes in 2021 and 2020 was calculated:

	€ Million	
	2021	**2020**
Current tax (expense)/income for the year	(934)	(105)
Adjustments to current tax [(1)]	24	13
Current income tax (expense)/income (a)	**(910)**	**(92)**
Deferred tax (expense)/income for the year	(579)	296
Adjustments to deferred tax [(2)]	(312)	(220)
Deferred income tax (expense)/income (b)	**(891)**	**76**
Income tax (expense)/income(a+b)	**(1,801)**	**(16)**

(1) Includes changes in tax provisions amounting to €86 million and other current tax adjustments amounting to €-62 million.
(2) Includes the adjustment to deferred tax assets amounting to €-318 million and other deferred tax adjustments amounting to €6 million.

The reconciliation of "*Income tax expense*" recognized and the expense that would result from the application of the nominal income tax rate existing in the country of the parent company (Spain) to the net income before tax and investees is as follows:

	€ Million	
	2021	**2020**
Profit before income tax	4,329	(3,304)
Profit of investments accounted for using the equity method	301	(609)
Profit before income tax and profit of investments accounted for using the equity method	**4,028**	**(2,695)**
General nominal income tax rate in Spain	25 %	25 %
Income tax (expense)/income at the general nominal rate in Spain	**(1,007)**	**674**
Additional income tax (expense)/income due to adjustments to nominal rates other than the general rate in Spain [(1)]	(572)	83
Increased income tax expense from non-deductible expenses [(2)]	(37)	45
Lower income tax expense due to application of mechanisms to avoid double taxation [(3)]	55	(644)
Lower income tax expense due to application of tax credits and incentives [(4)]	88	77
Income tax (expense)/income due to adjustments for deferred taxes [(5)]	(318)	(236)
Income tax (expense)/income due to provision/reversion of provisions for income tax risks	86	(51)
Other items [(6)]	(96)	36
Income tax (expense)/income	**(1,801)**	**(16)**

(1) Profit taxed abroad or in Spain at rates other than 25% (special hydrocarbons regime, regional regimes, etc.).
(2) Corresponds to accounting provisions and expenses that are not tax deductible (the most noteworthy in 2020 were impairment losses on assets).
(3) Includes mechanisms to prevent international and internal double taxation, whether in the form of exemptions, tax relief and tax credits.
(4) Relates mainly to investment incentives in Norway ("Uplift") and tax credits for R&D in Spain.
(5) Includes mainly the adjustment to deferred tax assets in Canada and Spain following the reversal of their recoverability (see Note 23.3).
(6) Includes changes in deferred taxes due to exchange rate differences and changes in the tax rate.

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	**2021**	**2020**
Tax losses, tax credits and similar benefits not yet used	2,756	3,122
Amortization differences for tax and accounting purposes	(1,623)	(1,214)
Provisions for field decommissioning	404	543
Staff and other provisions	585	476
Other deferred taxes	66	252
Total deferred tax	**2,188**	**3,179**
Provisions for contingencies related to income tax[(1)]	(1,332)	(1,576)
Net deferred tax and other taxes	**856**	**1,603**

(1) The changes in provisions for contingencies related to income tax is as follows: (i) provisions/reversals charged to profit or loss, €155 million; (ii) reclassifications/payments, €98 million; and (iii) translation and other differences, €-9 million.

The tax assets recognized corresponding to tax losses and tax loss carryforwards amount to €2,756 million and correspond mainly to:

Country	€ Million	Legal expiry	Estimated recoverability
Spain	1,674	No time limit	In less than 10 years
United States	892	20 years	Mostly in 10 years
Luxembourg	125	No time limit	In less than 10 years
Mexico	26	10 years	In less than 10 years
Colombia	37	No time limit	In less than 10 years
Other	2	-	-
Total	**2,756**		

Below is a breakdown of changes in deferred tax:

€ Million	**2021**	**2020**
Opening balance for the year	**3,179**	**3,224**
Income (expense) in income statement	(891)	58
Income (expense) in equity	(14)	—
Translation differences for balances in foreign currency	52	(101)
Other items [1]	(138)	(2)
Balance at year end	**2,188**	**3,179**

[1] Relates mainly to deferred taxes of companies reclassified as held for sale.

In 2021, following the review performed by the Group to test its assets for impairment, the Group concluded that the recoverability of the deferred tax assets in Canada was not justified and therefore reduced the deferred tax assets recognized by €175 million.

In addition, the Group reduced the deferred tax assets recognized in Spain by €141 million mainly due to the impact of implementing the minimum tax as of 2022, which limits the use of tax credits for investments and, therefore, the justification of their recoverability.

In 2020, as a result of reviewing the price scenarios determined for the asset impairment test, the Group reduced the deferred tax assets recognized by €236 million (does not include impairment losses on joint ventures, see Note 21).

The breakdown of net deferred tax assets at year-end 2021 is as follows:

Country	€ Million	Legal expiration
Luxembourg	3,629	17 years / no time limit
Canada	814	20 years
United States	637	20 years / no time limit
Spain [1]	506	No time limit
Other [2]	111	
Total [3]	**5,697**	

NOTE: €5,021 million corresponds to 2020.
[1] In Spain this does not include deferred tax liabilities associated with taxable temporary differences on investments in subsidiaries, associates and permanent establishments that meet the requirements established in IAS 12 to apply the accounting exception (€94 million and €113 million at the end of 2021 and 2020, respectively).
[2] Corresponds to Australia (€38 million), the Netherlands (€12 million), Venezuela (€11 million), Singapore (€5 million), the United Kingdom (€5 million), Colombia (€2 million) and Bolivia (€2 million).
[3] Does not include the amount corresponding to net unrecognized deferred tax assets of companies accounted for using the equity method, which amounted to €1,391 million (United Kingdom €776 million, Venezuela €446 million, Trinidad and Tobago €166 million and Spain €3 million).

23.4) Government and legal proceedings with tax implications

In accordance with current tax legislation, tax returns cannot be considered final until they have been audited by the tax authorities or until the statute of limitations period in each tax jurisdiction has expired.

The time frame for which the Group companies have their tax returns open for audit with regard to the main applicable taxes are as follows:

Country	Years	Country	Years
Algeria	2017 - 2021	Mexico	2017 - 2021
Bolivia	2015 - 2021	Norway	2019 - 2021
Canada	2015 - 2021	Netherlands	2020 - 2021
Colombia	2016 - 2021	Peru	2016 - 2021
Ecuador	2017 - 2021	Portugal	2018 - 2021
Spain	2017 - 2021	United Kingdom	2015 - 2021
United States	2018 - 2021	Singapore	2016 - 2021
Indonesia	2017 - 2021	Trinidad and Tobago	2015 - 2021
Libya	2013 - 2021	Venezuela	2016 - 2021

Whenever discrepancies arise between Repsol and the tax authorities with respect to the tax treatment applicable to certain operations, the Group behaves towards the authorities in a transparent and cooperative manner in order to resolve the resulting controversy, using the legal avenues available with a view to reaching non-litigious solutions. However, as in prior years, this year there are administrative and legal proceedings with tax implications that may have an adverse impact on the Group's interest and that have given rise to litigation proceedings that could result in additional 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.

As a general rule, the Group recognizes provisions for tax-related proceedings that it deems it is likely to lose. 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 from past events in these matters.

In view of the uncertainty generated by the materialization of existing tax risks associated with litigation and other tax contingencies, the Group has recognized provisions that are considered adequate to cover the aforementioned risks. At December 31, 2021, the Group had recognized €1,332 million relating to uncertain income tax positions (€1,576 million at December 31, 2020). In addition, it recognized other tax provisions amounting to €215 million (€101 million at December 31, 2020), which are presented under "*Other provisions*" in Note 15.

At December 31, the main tax-related proceedings concerning the Repsol Group were as follows:

Bolivia

YPFB Andina, S.A. is involved in a lawsuit regarding the deductibility of royalty payments and hydrocarbon shares from the Company's income tax. A judgment has been handed down at first instance, rejecting the company's claim; the lawsuit is currently awaiting a ruling at second instance. The Company believes that its position is expressly supported by law.

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 various tax assessments (IRRF, CIDE and PIS/COFINS)[32] for tax years 2008 to 2013, in connection with payments to foreign companies for charter contracts for exploration platforms and related services used for activities in the blocks.

[32] IRRF: Imposto de Renda Retido na Fonte (Withholding tax), CIDE: Contribuição sobre Intervenção no Domínio Econômico (Contribution on Economic Activities), PIS: Programa de Integração Social (Social Integration Program) and COFINS: Contribuição para o financiamento da seguridade social (Contribution for Social Security Financing).

Likewise, Repsol Sinopec Brasil received assessments for the same items and taxes (tax years 2009 and 2011) in connection with payments to foreign companies for contracts for exploration charters and related services used in blocks BMS 48, BMS 55, BMES 29 and BMC 33, in which Repsol Sinopec Brasil is the operator.

These lawsuits are currently limited to CIDE and PIS/COFINS, after the company availed itself of a program authorized by Law 13,586/17, which made it possible to reduce the amount in dispute regarding personal income tax (IRRF) through the retroactive application of the price determination percentages (split) contained in this Law, abandoning the lawsuits in progress and without any penalties being applicable.

All these assessments have been appealed in administrative or court proceedings (at first or second instance), with a favorable ruling at second instance. The Company considers that it has acted in accordance with the law and in line with general practice in the sector.

In 2021 Repsol Sinopec Brasil, S.A. received a proposal to adjust its transfer pricing policy with regard to the methodology for calculating the remuneration for the charter services rendered in 2016 for the drilling and extraction rigs owned by Agri BV and Guara BV. The Company has filed pleadings as it considers that the remuneration calculation methodology applied is correct.

Canada

The Canadian Revenue Agency (CRA) periodically reviews the tax situation of the companies of Repsol Oil & Gas Canada Inc. (ROGCI, formerly Talisman Group, acquired by Repsol in 2015) resident in Canada. In recent years, Repsol has strengthened cooperative relationships with the CRA, which has allowed it to reach agreements on tax matters. In 2020, the tax audit of international operations for tax years 2011, 2012 and 2013 was concluded with an agreement reached and without any significant impact for the Group. International operations from 2015 and 2016 and corporate income tax for 2016 and 2018 are currently being audited.

Spain

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

- Financial years 2006 to 2009. In relation to the audit of these years, the matters under dispute relate mainly to (i) transfer pricing, (ii) tax credits for losses incurred on investments abroad, and (iii) tax credits for investment incentives, the majority of them as a result of changes in the criteria maintained by the Administration in previous audits. In relation to the transfer pricing adjustments, the settlements were annulled as a consequence of the resolution of a dispute by the Arbitration Board of the Economic Agreement with the Basque Country, the resolution of a mutual agreement with the US and two decisions handed down by the Central Economic Administrative Tribunal; the tax authorities issued a new assessment for the 2007-2009 period applying the criteria already accepted in subsequent years by the Administration and the taxpayer (the assessment for 2006 is still pending). In relation to the other matters (tax credits for losses incurred on investments abroad and tax credits for R&D), the Central Economic Administrative Court partially upheld the Company's appeals, and with regard to that not upheld, two appeals for judicial review were filed with the National Court (for 2006 and for 2007-2009). In 2021 the National Court handed down a judgment with regard to the appeal corresponding to 2007-2009, upholding in full that relating to the tax credits for investments (R&D tax incentives), and mostly upholding that relating to the tax credit for losses incurred on investments abroad. Accordingly, as this last issue was partially dismissed, the Company has prepared an appeal to be filed with the Supreme Court. Consequently, more than 90% of that originally demanded by the tax authorities has already been definitively annulled.

- Financial years 2010 to 2013. The audits in relation to these years were concluded in 2017 without any penalties being imposed and, for the large part, by means of assessments signed on an uncontested basis 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 deduction of losses incurred on overseas business), the administrative decision has been subject to appeal, as the Company believes it has acted within the law. The Central Economic Administrative Tribunal rejected this claim and an appeal for judicial review was filed with the National Court, which has yet to hand down a decision. Regarding the deductibility of late payment interest, the Supreme Court has already followed case law in the position defended by Repsol.

- Financial years 2014 to 2016. The audit ended in December 2019 without the imposition of any penalty and, for the most part, with assessments signed on an uncontested basis or agreements that did not generate significant liabilities for the Group. However, there are still disputes regarding the deduction of losses for foreign investments and the corresponding claim has been filed against the administrative ruling, since the Company believes that its actions have been in accordance with the law.

- Financial years 2017 to 2020. In November 2021, the Company was notified that a tax audit would be carried out for these years.

Indonesia

The Indonesian tax authorities have been questioning various aspects regarding the taxation of the profits of the permanent establishments that the Group has in the country, in particular with regard to the application of the reduced rate of the double taxation treaties signed by Indonesia. The company considers that its actions are in line with general practice in the sector and are in accordance with the law and, therefore, the disputes on which the aforementioned actions are based are being appealed through administrative proceedings or a ruling has yet to be handed down by the courts.

Peru

The Peruvian Tax Authorities (SUNAT) modified the 2014 income tax assessment of RELAPASAA as the transfer prices applied on certain sales and purchases came into question. An administrative appeal has been filed against this matter.

The Supervisory Agency for Investment in Energy and Mining (OSINERGMIN) ordered RELAPASAA to pay the "contribution for regulation of the companies of the hydrocarbon sub-sector" for the sales of aircraft fuel, however, it is the company's understanding that such sales are not subject to this tax since the use of that product is exempt. An administrative appeal has been filed against this matter.

The Company does not expect any additional liabilities to arise that could have a significant impact on the Group's profit as a result of the above proceedings.

(24) Earnings per share

The earnings per share at December 31, 2021 and 2020 are detailed below:

Earnings per share (EPS)	**2021**	**2020**
Net income attributed to the parent (€ million)	2,499	(3,289)
Adjustment to the interest expense on subordinated perpetual bonds (€ million)	(60)	(54)
Weighted average number of shares outstanding (millions of shares)	1,491	1,572
Basic and diluted earnings per share (euros/share)	**1.64**	**(2.13)**

CASH FLOWS

(25) Cash flow

25.1) Cash flow from operating activities

During 2021 the cash flow from operating activities amounted to €4,677 million compared to €2,738 million in 2020. The increase was due mainly to higher revenue as a result of higher crude oil prices and greater demand for products, in a context of increased activity due to the recovery from the international crisis caused by COVID-19 (see Note 2.3). This increase in revenue was partially offset by the effect of higher inventory costs (price of inventories in the industrial businesses).

The breakdown of "*Cash flows from operating activities*" in the statement of cash flows is as follows:

	Notes	€ Million 2021	2020
Net income before tax		**4,329**	**(3,304)**
Adjusted result:		**2,390**	**5,074**
Amortization of non-current assets	3, 11 and 12	2,004	2,207
Operating provisions	10.3, 15 and 21	935	2,204
Net income from the disposal of assets		(10)	(102)
Financial result	22	(271)	141
Share of results of companies accounted for using the equity method, net of taxes	13	(301)	609
Other adjustments (net)		33	15
Changes in working capital:		**(1,107)**	**1,000**
Increase/Decrease in accounts receivable	18	(3,785)	985
Increase/Decrease in inventories	17	(1,340)	1,525
Increase/Decrease in accounts payable	19	4,018	(1,510)
Other cash flows from operating activities:		**(935)**	**(32)**
Dividends received		281	183
Income tax refunded/(paid) (1)		(920)	100
Other proceeds from/(payments for) operating activities (2)		(296)	(315)
Cash flows from operating activities		**4,677**	**2,738**

(1) In 2021, net income tax payments returned to normal levels in line with those of 2019 (€975 million). In 2020, of particular note were corporate income tax refunds in Spain and Norway. For further information on the Group's tax contribution, see section 6.7 "*Responsible tax policy*" of the 2021 consolidated Management Report and in Appendix V.
(2) Includes mainly payments for the application of provisions (see Note 15).

25.2) Cash flows from investing activities

During 2021 the net cash flow from investing activities resulted in a net outflow of €-2,933 million.

"*(Payments for)/proceeds from investments in Group companies and associates*" amounted to €-269 million. The payments relate mainly to the acquisition of 40% of Hecate, the acquisition of an additional 25% in Saint John LNG, the acquisitions and contributions to develop renewable energy projects in the US (100% of the Jicarilla 2 solar photovoltaic plant) and in Chile (through the joint venture in Ibereólica), and the acquisition of 70% in Gana Energy. The proceeds relate mainly to the sales completed in the Exploration and Production segment (including the sale of AROG.B.V. in Russia) and the refund of capital from Repsol Sinopec Brasil, S.A. In 2020, this heading mainly included the tax refund (income tax prepayments) attributed to the divestment in Naturgy in May 2018 and offsetting the divestment in Vietnam.

"*(Payments for)/proceeds from investments in property, plant and equipment, intangible assets and investment property*" amounted to €-1,797 million, which is in line with that of 2020. Less investments in assets in the Exploration and Production segment are offset by higher investments in the industrial businesses and the investment efforts to develop low-carbon generation projects.

"*(Payments for)/proceeds from investments in other financial assets*" reflected net disposals of €-891 million, which is explained by the placement/settlement of deposits during the period.

25.3) Cash flows from financing activities

In 2021 the net cash flow from financing activities resulted in a net payment of €-529 million, €1,086 million less than in 2020. This improvement is explained by the net issuance in 2021 of equity instruments (see Note 6) and debt (see Note 7), the cash flow obtained from the sale of the 49% holding in the renewable asset (Delta I) and lower interest payments (lower cost of debt), despite the higher investment in treasury shares (share buyback programs) and higher dividend payments (cash dividend in July, compared to the "*Repsol Flexible Dividend*" in 2020).

The breakdown of the changes to liabilities linked to financing activities in 2021 is as follows:

	€ Million					
	2020	2021				
			Non-cash changes			
	Opening balance [1]	Cash flows	Exchange rate effect	Changes in FV	Others [3]	Closing balance [1]
Bank borrowings	937	588	74	—	288	1,887
Bonds and other marketable securities	7,951	431	29	—	159	8,570
Derivatives (liabilities)	344	(556)	241	161	9	199
Loans [2]	3,680	91	91	—	(2,775)	1,087
Other financial liabilities	99	(7)	4	—	10	106
Lease liabilities	2,991	(537)	156	—	338	2,948
Shareholder remuneration and perpetual bonds	2,039	(285)	—	—	985	2,739
Treasury shares and own equity instruments	(162)	(722)	—	—	243	(641)
Changes in investments in companies without loss of control	—	(200)	—	—	(200)	—
Total liabilities from financing activities	**17,879**	**(797)**	**595**	**161**	**(943)**	**16,895**
Derivatives (assets)	(240)	653	(17)	(808)	168	(244)
Other proceeds from/payments for financing activities	—	(385)	—	—	385	—
Total other assets and liabilities	**(240)**	**268**	**(17)**	**(808)**	**553**	**(244)**
Total	**17,639**	**(529)**	**578**	**(647)**	**(390)**	**16,651**

[1] Corresponds to the current and non-current balance on the balance sheet.
[2] Includes loans to companies accounted for using the equity method. The change is mainly explained by the allocation of financial assets of Repsol Sinopec Brasil, B.V. to its partners (see Notes 7.1 and 13) in the amount of €2,794 million.

The breakdown of the changes in liabilities arising from financing activities in 2020 is as follows:

	€ Million					
	2019	2020				
			Non-cash changes			
	Opening balance [1]	Cash flows	Exchange rate effect	Changes in FV	Other [3]	Closing balance [1]
Bank borrowings	2.245	(1.284)	(56)	—	32	937
Bonds and other marketable securities	7.92	(116)	(32)	—	179	7.951
Derivatives (liabilities)	118	(792)	27	979	12	344
Loans [2]	3.915	10	(362)	—	117	3.68
Other financial liabilities	136	(35)	(9)	—	7	99
Lease liabilities	3.133	(528)	(182)	—	568	2.991
Shareholder remuneration and perpetual bonds	1.137	540	—	—	362	2.039
Treasury shares and own equity instruments	(1.170)	(378)	—	—	1.386	(162)
Total liabilities from financing activities	**17.434**	**(2.583)**	**(614)**	**979**	**2.663**	**17.879**
Derivatives (assets)	(110)	887	(191)	(827)	1	(240)
Other proceeds from/payments for financing activities	73	81	—	—	(154)	—
Total other assets and liabilities	**(37)**	**968**	**(191)**	**(827)**	**(153)**	**(240)**
Total	**17.397**	**(1.615)**	**(805)**	**152**	**2.51**	**17.639**

[1] Corresponds to the current and non-current balance on the balance sheet.
[2] Includes loans with companies accounted for using the equity method.
[3] This mainly includes the capital reduction carried out during the year through the retirement of treasury shares amounting to€1,221 million (see Note 6.2), the increase in liabilities due to the addition of leases, and the accrual of interest and dividends.

Cash and cash equivalents increased by €1,274 million compared to December 31, 2020, amounting to a total of €5,595 million. Cash and cash equivalents are part of the Group's liquidity (see Note 10).

OTHER DISCLOSURES

(26) Commitments and guarantees

26.1) Contractual commitments

Commitments consist of future unconditional obligations (non-cancellable, or cancellable only under certain circumstances), as a result of commercial agreements. These commitments were quantified using Repsol's best estimates, and, if fixed total amounts were not stipulated, using price estimates and other variables that are consistent with those considered for calculating the recoverable amount of the assets (see Notes 3 and 21).

At December 31, 2021, the Group has contractually committed to the following purchases, investment and other expenditures:

€ Million	2022	2023	2024	2025	2026	Subsequent years	Total
Purchase commitments	**4,943**	**1,729**	**1,477**	**1,375**	**1,302**	**16,640**	**27,466**
Natural gas [(1) (2)]	2,349	1,344	1,163	1,060	990	13,962	20,868
Crude oil and others [(2) (3)]	2,594	385	314	315	312	2,678	6,598
Investment commitments [(4)]	**735**	**357**	**343**	**110**	**52**	**62**	**1,659**
Provision of services [(5)]	**388**	**263**	**190**	**146**	**147**	**174**	**1,308**
Transport commitments [(6)]	**170**	**162**	**105**	**81**	**66**	**264**	**848**
TOTAL	**6,236**	**2,511**	**2,115**	**1,712**	**1,567**	**17,140**	**31,281**

(1) Primarily includes commitments to purchase liquefied natural gas (LNG) in North America (with "take or pay" clauses). These contracts are classified for accounting purposes as "own use". Long-term firm commitments for the purchase and sale of gas and crude oil are analyzed to determine whether they correspond to the supply or marketing needs of the Group's normal business activities (own use), or whether, on the contrary, they should be considered a derivative and recognized in accordance with the criteria established in IFRS 9 (see Note 9).

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

Purchase commitments	Unit of measurement	2022	2023	2024	2025	2026	Subsequent years	Total
Crude oil	kbbl	26,003	201	214	227	214	323	27,182
Natural gas								
Natural gas	Tbtu	95	29	17	17	4	6	168
Liquefied natural gas	Tbtu	116	162	165	166	166	2,185	2,960

(3) 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 2021) and with Overseas Petroleum and Investment Corporation (expires in 2021).

(4) Includes mainly investment commitments in Portugal, Spain, Colombia, Norway and Algeria amounting to €462 million, €297 million, €285 million, €204 million and €199 respectively.

(5) Includes mainly commitments associated with hydrocarbon exploration and productions activities totaling €571 million and commitments for technological developments amounting to €266 million.

(6) Includes, primarily, hydrocarbon transportation commitments in North America and Peru amounting to approximately €818 million.

26.2) Guarantees

In the course of its business activities, Repsol assumes guarantees of various types and content for third parties or companies whose assets, liabilities and earnings are not presented in the consolidated financial statements (joint ventures and associates). The guarantees cannot be considered a definite outflow of resources to third parties, as the majority of these guarantees will mature without any payment obligation arising. At the date of issue of these consolidated Financial Statements, the likelihood that any non-compliance would give rise to a liability for these commitments to any material extent is remote.

At December 31, 2021, the most significant guarantees for the fulfillment of obligations are:

- For the rental of three floating production platforms for the development of the BMS 9 field in Brazil: (i) a guarantee for $435 million corresponding to 100% of RSB's obligations (see Note 13), for which Repsol holds a counter guarantee from China Petrochemical Corporation in respect of its 40% interest in RSB; and (ii) two additional guarantees of $408 million and $371 million, corresponding to the 60% interest held by the Group in RSB. The guaranteed amounts are reduced annually until 2036, the date on which the contracts are completed.

- For 51% of the guarantees for the decommissioning of RSRUK in the North Sea, for £568 million.

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

Guarantees granted in the ordinary course of business correspond to a limited number of guarantees totaling €77 million. In Venezuela an undetermined guarantee has been granted to Cardón IV to cover the commitment to supply gas to PDVSA until 2036. However, PDVSA has provided a guarantee to Cardón IV to cover collection rights for the supply commitment; the Group has also provided a guarantee to the Republic of Venezuela to cover the obligations assumed in the development of gas assets in the country.

Environmental guarantees are arranged in the normal course of hydrocarbon exploration and production operations, however, the probability of occurrence of the contingencies covered is remote and their amounts indeterminable.

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.

(27) 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 as % of share capital December 31, 2021
Sacyr, S.A. [(1)]	3.094

Note: data available to the Company at December 31, 2021 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)] Sacyr, S.A. holds its investment through Sacyr Investments II, S.A.U.

b. Directors and executives: includes members of the Board of Directors as well as members of the Executive Committee, who are considered "key management personnel" and any persons related thereto for the purpose of this section (see Note 29.4).

c. People, companies or entities within the Group: includes transactions with Group companies or entities that were not eliminated in the consolidation process, corresponding mainly to transactions undertaken with companies accounted for using the equity method (see Note 13).

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

€ Million	2021				2020			
EXPENSES AND REVENUE	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
Financial expenses	—	—	16	16	—	—	92	92
Leases	2	—	—	2	2	—	—	2
Services received	19	—	55	74	22	—	36	58
Purchase of goods [2]	3	—	1,092	1,095	—	—	738	738
Other expenses [3]	—	—	97	97	—	—	24	24
TOTAL EXPENSES	**24**	**—**	**1,260**	**1,284**	**24**	**—**	**890**	**914**
Financial income	—	—	67	67	—	—	81	81
Services provided	—	—	4	4	—	—	2	2
Sale of goods [4]	16	—	453	469	44	—	221	265
Other revenue	—	—	254	254	1	—	131	132
TOTAL REVENUE	**16**	**—**	**778**	**794**	**45**	**—**	**435**	**480**

€ Million	2021				2020			
OTHER TRANSACTIONS	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
Financing agreements: credit and contributions of capital (creditor) [5]	—	—	463	463	—	—	457	457
Financing agreements: loans and contributions of capital (borrower)	—	—	338	338	—	—	872	872
Guarantees and sureties given [6]	—	—	615	615	—	—	637	637
Guarantees and sureties received	9	—	10	19	7	—	5	12
Commitments assumed [7]	2	—	57	59	56	—	90	146
Dividends and other profits distributed [8]	65	1	—	66	58	—	—	58
Other operations [9]	34	—	3,738	3,772	12	—	1,799	1,811

€ Million	2021				2020			
CLOSING BALANCES	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
Customer and trade receivables	2	—	169	171	2	—	101	103
Loans and credits granted	—	—	845	845	—	—	900	900
Other receivables	—	—	92	92	—	—	82	82
TOTAL RECEIVABLE BALANCES	**2**	**—**	**1,106**	**1,108**	**2**	**—**	**1,083**	**1,085**
Suppliers and trade payables	16	—	238	254	16	—	62	78
Loans and credits received [10]	—	—	1,085	1,085	—	—	3,674	3,674
Other payment obligations [11]	—	—	—	—	28	—	—	28
TOTAL PAYABLE BALANCES	**16**	**—**	**1,323**	**1,339**	**44**	**—**	**3,736**	**3,780**

(1) Includes transactions performed with executives and directors not included in Note 29 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 dividends and other remuneration received as a result of holding shares of the Company.
(2) In 2021 "*People, companies or entities within the Group*" primarily includes products purchased from Repsol Sinopec Brasil (RSB) and from BPRY Caribbean Ventures LLC (BPRY), for the amount of €753 million and €127 million, respectively (€509 million and €85 million in 2020).
(3) Includes mainly supplies and provisions for credit risks of accounts receivable and financial instruments (see Note 10.3 and 21.3).
(4) In 2020 "*Significant shareholders*" included mainly the sales of crude oil to the Temasek group. In 2021 and 2020 "People, companies or entities of the Group" includes mainly sales of products to Iberian Lube Base Oil, S.A. (ILBOC) and Dynasol Group for €279 million and €152 million in 2021 and €154 million and €57 million in 2020, respectively.
(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 decommission offshore platforms in the North Sea.
(7) Corresponds to purchase, investment or expense commitments acquired in the period (see Note 26).
(8) In 2021, the amounts recognized as dividends and other income include amounts corresponding to the sale to Repsol, at the guaranteed fixed price, of bonus issue rights as part of the bonus share issue closed in January 2021, as part of the "*Repsol Flexible Dividend*" remuneration program, as well as the cash dividend paid in July (see Note 6.3).

(9) In 2021 and 2020 "*People, companies or entities within the Group*" includes mainly the repayments and/or cancellations of guarantees provided or loans granted to joint ventures in the UK and financing agreements (see the following footnote to the table).
(10) The change is mainly explained by the allocation of financial assets of Repsol Sinopec Brasil, B.V. to its partners (see Note 13)
(11) In 2020 "*Significant shareholders*" included the amounts corresponding to the sale to Repsol, at the guaranteed fixed price, of bonus issue rights as part of the bonus share issue closed in 2021. In 2021 this did not include the amount corresponding to cash dividends payable in January 2022.

(28) Personnel obligations

28.1) Defined contribution pension plans

For certain employees in Spain, Repsol has recognized mixed pension plans in line with the current law. Specifically, these are defined contribution pension plans for the contingency of retirement and defined benefit plans for the contingencies of total or absolute permanent disability, comprehensive disability and death. In the case of total or absolute permanent disability, comprehensive disability and death, the pension plans have taken out insurance policies with an external entity.

The annual cost charged to "*Personnel expenses*" in the income statement in relation to the defined contribution pension plans detailed above amounted to €47 million and €52 million in 2021 and 2020, respectively.

The Group's executives in Spain are beneficiaries of an executive pension plan that complements the standard pension plan known as "*Plan de previsión de Directivos*" (Executive welfare plan), which covers the participant's retirement, their full or total permanent disability, comprehensive disability and death. Repsol makes defined contributions based on a percentage of participants' salaries. The plan guarantees a fixed return equal to 125% the National Consumer Price Index for the previous year. The plan is instrumented through collective insurance policies underwritten by an insurance company that finances and outsources the commitments in respect of contributions and the fixed return mentioned above.

The cost of this plan recognized under "*Personnel expenses*" in the income statement in 2021 and 2020 amounted to €16 million and €12 million, respectively.

28.2) Defined benefit pension plans

Certain groups of employees have pension plans for the contingencies of full or total permanent disability, comprehensive disability and death, the insurance policies of which are taken out with an external entity. The total amount charged to the Group's income statement in 2021 and 2020 was €10 million and €5 million, respectively, while the provisions recognized on the balance sheet at year-end 2021 and 2020 stood at €80 million and €81 million, respectively (see Note 15).

28.3) Long-term variable remuneration

A loyalty building plan aimed at executives and other persons occupying positions of responsibility consisting of long-term incentives as part of their benefit package. The purpose of this program is to strengthen the link with shareholders' interests, based on the sustainability of medium and long-term results as well as compliance with the Strategic Plan, while at the same time facilitating the retention by the Group of key personnel.

At year end, the 2018-2021, 2019-2022, 2020-2023 and 2021-2024 plans were in force. The 2017-2020 plan was closed and its beneficiaries received their bonuses in 2021.

The four plans are independent of each other and fulfillment of the objectives tied to each plan allows its beneficiaries to receive an incentive in the first four months of the year following the last year of the plan. However, receipt is tied to the beneficiary remaining in the Group 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.

The 2018-2021 and 2019-2022 plans do not involve the delivery of shares or options, with the exception of the Chief Executive Officer, who is partially paid in shares. In this regard, the amount of the 2018-2021 Long-Term Incentive will be paid to the Chief Executive Officer in a proportion of 70% in cash and 30% in shares, so that he will receive €773,088 in cash and 13,184 Company shares equal to €146,174.

In accordance with the provisions of the current Directors Remuneration Policy, the final number of shares to be delivered to the Chief Executive Officer is calculated based on: (i) the amount that is effectively payable following application of the corresponding taxes (or withholdings); and (ii) the weighted average for the daily volume of weighted average Repsol share prices in the fifteen trading sessions before the Friday of the week preceding the date on which the Board of Directors agrees to pay the incentive of each of the Plans for the Chief Executive Officer.

Accordingly, the 2020-2023 and 2021-2024 plans differ from the previous plans in that beneficiaries are entitled to receive a "cash incentive" and a certain number of "Performance Shares", which will entitle them to receive Repsol, S.A. shares at the end of the Plan's vesting period, subject to the performance of certain metrics.

To reflect these commitments assumed, expenses of €21 million and €9 million were recognized in 2021 and 2020, respectively, with the accumulated outstanding payment obligation amounting to €49 million and €52 million at December 31, 2021 and 2020, respectively.

28.4) Share Purchase Plans for Beneficiaries of Long-Term Incentive and Share Acquisition Plans

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

This Plan allows investments in shares of up to 50% of the gross amount of the Long-term Incentive to encourage its beneficiaries (including the Chief Executive Officer and the other Executive Committee members) to align themselves with the long-term interests of the Company and its shareholders. If the beneficiary maintains the shares for three years from the initial investment and the remaining conditions of the Plan are met, the Company will give the employee one additional share for every three initially acquired.

In the case of Senior Management, (the Chief Executive Officer and other Executive Committee members), they are subject to an additional performance requirement in order to receive these additional shares, namely overall fulfillment of at least 75% of the targets set in the Long-Term Incentive Plan closed in the year preceding that of delivery of the shares.

The following cycles of this Plan are currently in force:

	No. of shares	Total initial investment (no. of shares)	Average price (Eur/Share)	Maximum commitment for delivery of shares
Ninth cycle (2019-2022) [1]	201	246,508	14.4101	82,168
Tenth cycle (2020-2023) [2]	238	340,537	8.4935	113,512
Eleventh cycle (2021-2024) [3]	180	200,997	11.0414	66,999

(1) Includes 14,330 shares delivered to the Chief Executive Officer as a partial payment of the 2015-2018 Long-Term Incentive Plan. In accordance with the provisions of the Directors Remuneration Policy, the shares delivered to the Executive Directors under each long-term variable remuneration plan may be calculated for the purposes of the investment in shares referred to in the Share Purchase Plan for the Beneficiaries of the Long-Term Incentive Plans.
(2) Includes 14,743 shares delivered to the Chief Executive Officer as a partial payment for the 2016-2019 Long-Term Incentive Plan.
(3) Includes 19,337 shares delivered to the Chief Executive Officer as a partial payment for the 2017-2020 Long-Term Incentive Plan.

During this eleventh cycle, the current members of the Executive Committee, including the Chief Executive Officer, have acquired a total of 99,517 shares.

As a result of this Plan, at December 31, 2021 and 2020, the Group had recognized an expense under "*Personnel expenses*" with a balancing entry under "*Other equity instruments*" in equity of €0.95 million.

In addition, the eighth cycle of the Plan (2018-2021) vested on May 31, 2021. As a result, the rights of 136 beneficiaries vested 40,887 shares (30,174 shares net of payment on account of the personal income tax). Specifically, the rights of the members of the Executive Committee and the Chief Executive Officer to 20,232 shares also vested (14,028 shares net of payment on account).

ii.) "*Share Acquisition Plans*"

The Company has been implementing, on an annual basis, a share acquisition plan aimed at all Group employees in Spain since 2011. These Plans enable those so wishing to receive a portion of their remuneration in shares up to an annual limit of €12,000. The shares to be delivered are valued at the closing share price on the continuous Spanish stock market on each date of delivery.

In 2021 the Group purchased 1,032,481 shares of Repsol, S.A. (1,502,421 shares in 2020) amounting to €11 million (€12 million in 2020) for delivery to employees (see Note 6).

The members of the Executive Committee acquired 8,211 shares in accordance with the plan terms and conditions in 2021.

iii.) "*Global Employee Share Purchase Plan: YOUR REPSOL*"

In 2020 the YOUR REPSOL Plan was launched, which enabled all employees to allocate a certain amount of their remuneration to purchase Company shares and receive one free share for every two initially acquired, provided that the shares are held for a period of 2 years and the other conditions of the Plan are met.

Under the YOUR REPSOL Plan for 2020, the members of the Executive Committee acquired a total of 1,848 shares which, in accordance with the terms and conditions of the Plan, will entitle them to receive a total of 924 shares in February 2023.

The shares to be delivered under plans i.), ii.) and iii.) may come from Repsol's direct or indirect treasury shares, be newly issued or come from third parties with which agreements have been signed.

(29) Remuneration of the members of the Board of Directors and key management personnel

29.1) 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 Bylaws, 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 in the Directors 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 Directors Remuneration Policy approved at the Annual General Meeting held on March 26, 2021 is €8,5 million.

The remuneration accrued in 2021 for membership of the Board of Directors and with a charge to bylaw-stipulated emoluments amounted to €6,884 million, the detail being as follows:

	Remuneration of Board members relating to their position (euros)							
Board of Directors	Board	Delegate C.	Independent Lead Director	Audit C.	Appoints C.	Remun. C.	Sustain. C.	Total
Antonio Brufau Niubó [(1)]	(1)	(1)	—	—	—	—	—	2,500,000
Josu Jon Imaz San Miguel	176,594	176,594	—	—	—	—	—	353,188
Arantza Estefanía Larrañaga	176,594	—	—	—	18,395	3,679	44,149	242,817
María Teresa García-Milá Lloveras	176,594	—	—	88,297	22,074	—	—	286,965
Henri Philippe Reichstul	176,594	176,594	—	—	—	—	—	353,188
Mª del Carmen Ganyet i Cirera	176,594	—	—	88,297	22,074	22,074	—	309,039
Ignacio Martín San Vicente	176,594	176,594	—	—	—	—	—	353,188
María Teresa Ballester Fornés [(2)]	44,149	—	—	22,074	—	5,519	—	71,742
Manuel Manrique Cecilia	176,594	176,594	—	—	—	—	—	353,188
Rene Dahan [(3)]	161,878	161,878	—	—	—	—	—	323,756
José Manuel Loureda Mantiñán [(4)]	132,446	—	—	—	—	16,556	33,111	182,113
Mariano Marzo Carpio	176,594	—	22,074	—	22,074	22,074	44,149	286,965
Isabel Torremocha Ferrezuelo	176,594	—	—	88,297	—	—	44,149	309,040
Emiliano López Achurra [(5)]	14,716	—	—	—	1,840	—	3,679	20,235
Aurora Catá [(6)]	132,446	—	—	66,223	16,556	16,556	—	231,781
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 approved by the Board of Directors, and at the proposal of the Remuneration Committee, the amount due in 2021 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) €44,149 for membership of the Sustainability Committee; (v) €22,074 for membership of the Appointments Committee; and (vi) €22,074 for membership of the Remuneration Committee; and (vii) €22,074 for the position of Independent Lead Director.

[(1)] On April 30, 2015, Mr. Brufau stepped down from his executive duties, and on this same date the shareholders at the Annual General 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 gross per year. In addition, remuneration in kind and payments on account/withholdings linked to remuneration in kind totaled €0,273 million.

[(2)] Ms. Ballester ended her term of office as director on March 26, 2021.

[(3)] Mr. Dahan ceased to hold office as director and member of the Delegate Committee due to his death on November 21, 2021.

(4) Mr. Loureda resigned from his position as director and member of the Remuneration Committee and Sustainability Committee prior to the meeting held on October 27, 2021.
(5) Mr. López accepted his appointment as a director of the Company and member of its Appointments Committee and Sustainability Committee following the meeting held on November 24, 2021
(6) Ms. Catá was appointed director and member of the Audit and Control Committee, Appointments Committee and Remuneration Committee on March 26, 2021.

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 on remuneration for membership of the managing bodies in this section.
- No Group company, joint arrangement or associate 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 Chief Executive Officer, whose remuneration is subject to the commitments set forth in his contract for services, as described further on.

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

In 2021, compensation to Directors for the performance of executive duties was as follows:

€ Million	Josu Jon Imaz San Miguel
Fixed monetary remuneration	1.200
Variable remuneration and in kind (1)	2.432

(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 eighth cycle of the Share Purchase Plan for the Beneficiaries of the Long-Term Incentive Plans, as detailed in Note 28.3.

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

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

The remuneration earned in 2021 by members of the Board of Directors of the parent company for membership on the managing bodies of other Group companies, joint arrangements or associates amounts to €0.08 million, and is detailed as follows:

	€ Million
Emiliano López Achurra	0.08

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

The cost in 2021 of the contributions made to pension plans and welfare plans for the Chief Executive Officer discharging executive duties in the Group amounted to:

	€ Million
Josu Jon Imaz San Miguel	0.254

e) Share Purchase Plan for Beneficiaries of the Long-Term Incentive Plans

On May 31, 2021, the vesting period concluded for the eighth cycle of the share purchase plan for beneficiaries of long-term incentive plans (see Note 28.4). Upon vesting, Josu Jon Imaz became entitled to receive a total of 10,525 shares, valued at a price of €11.35 per share.

29.2) Indemnity payments to Board members

In 2021, no Director received any indemnity payments from Repsol.

29.3) Other transactions with directors

In 2021, Repsol's Directors did not conclude any material transaction with the Parent or any of the Group companies outside the ordinary course of business or on terms other than those afforded to customers.

The Chief Executive Officer signed up for the 2019-2022, 2020-2023 and 2021-2024 cycles of the Share Purchase Plan for Beneficiaries of the Long-Term Incentive Plans, as detailed in Note 28.

In 2021, 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 Spanish Companies Act, the resolutions of the Board and of the Appointments Committee during the year regarding related-party transactions, ratification, re-election and continuity of Directors and on appointment to positions on the Board and its committees were passed in the absence of the Director affected by the relevant proposed resolution.

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

29.4) Remuneration of key management personnel

a) Scope

Repsol considers "key management personnel" to be the members of the Executive Committee. In 2021, a total of 9 persons formed the Executive Committee. The term "key management personnel" 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 2021 by the people who, at some juncture during the period and during the time they occupied such positions, were members of the Executive Committee. 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. (information included in Note 29.1).

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

The total remuneration earned in 2021 is as follows:

	€ Million
Wages	5.579
Allowances	0.054
Variable remuneration [(1)]	4.965
Remuneration in kind [(2)]	0.524
Executive welfare plan	1.152

(1) This consists of an annual bonus, and a multi-annual bonus, calculated as a given percentage of the fixed remuneration earned on the basis of the degree to which certain targets are met.
(2) Includes vested entitlement to 9,707 additional shares (before withholdings) for the eighth cycle of the Share Purchase Plan for Beneficiaries of the Long-Term Incentive Plans, valued at €11.35 per share, equivalent to a gross amount of €110,193. It also includes contributions to pension plans for executives (see Note 28), and the premiums paid for life and disability insurance, amounting to €0.155 million.

c) Advances and loans granted

At December 31, 2021, Repsol, S.A. had granted loans to key management personnel amounting to €0.381 million, having accrued an average interest rate of 2.1% during the current financial year.

29.5) Indemnity payments to key management personnel

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

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

In 2021, none of the Company's key management personnel had received severance pay for the termination of their contract and for non-competition agreements.

29.6) Other transactions with key management personnel

In 2021, Executive Committee members did not conclude any material transaction with the parent 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, the Executive Committee members signed up for the 2019-2022, 2020-2023 and 2021-2024 cycles of the Share Purchase Plan for Beneficiaries of the Long-term Incentive Plans, as detailed in Note 28.3.

29.7) Civil liability insurance

In 2021, the Group took out a civil liability policy for Board members, the key management personnel referred to in Note 29.4 a), and the other executives and people executing such functions, for a total premium of €4.5 million. The policy also covers different Group companies under certain circumstances and conditions.

(30) Climate change and environmental information

In accordance with its express commitment to transparency, Repsol prepares its climate change information in accordance with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD)[33], to which it voluntarily adheres. The main aspects related to climate change are reported below and are explored in detail in section 6.1 of the 2021 consolidated Management Report:

– *Strategy*: Repsol has made public its commitment to be part of the solution in the fight against climate change by focusing its strategy on becoming a company with net zero CO_2 emissions by 2050, in line with the objectives of the Paris and Glasgow Summits and the Sustainable Development Goals of the United Nations, which aim to limit global warming to 1.5°C with respect to pre-industrial levels.

  The reduction in the Carbon Intensity Indicator (CII) measured in gCO_2e/MJ[34] is the metric used by the Company to monitor and set intermediate targets for decarbonization towards emission neutrality by 2050. Since the announcement of the first decarbonization roadmap in December 2019, Repsol has increased this target twice (most recently in October 2021) and, therefore, the intermediate CII reduction targets are: 15% by 2025, 28% by 2030 and 55% by 2040.

  For the 2021-2030 period, the 28% reduction in the CII corresponds to the specific plans established for each of the Company's businesses, and is achieved by applying a wide range of technologies and solutions: (i) emissions reduction in traditional businesses, through efficiency measures and portfolio optimization, (ii) industrial transformation (advanced biofuels, biogas from organic waste, renewable hydrogen, synthetic fuels, circular economy, etc.), (iii) renewable electricity generation, and (iv) CO_2 capture and storage.

In the 2030-2050 period, given the uncertainty regarding environmental conditions, the development of technologies and regulation, different scenarios are considered in which different decarbonization levers take on greater importance in the future energy basket; in each of these scenarios, the performance of the businesses allows it to achieve the goal of net zero

[33] The G-20 Ministers of Finance and central bank governors asked the Financial Stability Board (FSB) to review how the financial sector can address climate-related issues. The FSB established the Task Force on Climate-related Financial Disclosures (the Task Force), which has developed certain recommendations, the core elements of which are: governance, strategy, risk management, and metrics and targets. More information at https://www.fsb-tcfd.org.

[34] The numerator of the CII shows the emissions generated by the Company's activities (direct and indirect emissions derived from exploration and production, refining and chemicals, and from electricity generation), as well as emissions generated by the use of fuel products derived from its primary energy production (oil and natural gas). The denominator shows the energy that Repsol makes available to society in the form of end products derived from the production of primary energy from oil and gas and from low-carbon energy sources (More information at www.repsol.com).

emissions (100% reduction in the CII) by 2050 under technologically and economically viable conditions, taking advantage of opportunities for the transformation of traditional businesses and growth in new energies.

- *Risks and opportunities*: The methodology for identifying climate risks is adapted to that used in the Integrated Risk Management System, with a five-year time horizon, in order to extend its scope to 2050 and bring it into line with the commitment to net zero emissions:

  - By 2030, the probability of facing significant negative impacts as a result of the energy transition is low; and there is a very high probability that there will be opportunities (energy efficiency, renewable power generation, advanced biofuels, renewable hydrogen, medium- and long-term circular economy, carbon capture and storage), which will counteract the potential impacts of the energy transition.

  - By 2040 and 2050, exposure to climate risks will increase, as there will be added uncertainty associated with risk factors and the scale at which opportunities can be exploited is greater. However, Repsol's commitment to becoming a net zero emissions company by 2050 and its response to different energy transition scenarios mitigates these risks. The main risks, which may become opportunities through mitigation measures, are as follows:

    i. Changes in the basket of primary energy sources towards other less carbon-intense sources, which involve a reduction in the use of hydrocarbons.

    ii. Changes in energy end uses leading to a reduction in demand for the products sold, either as a result of natural market dynamics or caused by regulation.

    iii. Regulatory changes that affect operations and/or future investments.

    iv. Inefficient or late adoption of new practices, processes, or novel or less mature technologies.

    v. Changes that promote efficiency in the use of natural resources, including the reduction, reuse and recycling of non-energy products.

    vi. Potential difficulty or limitation for the Group to raise funds to meet its obligations or to carry out its activities.

    vii. Harm to the reputation of the Company and/or the industry.

    viii. Technological advances or innovation related to new processes or production methods that could significantly alter the operations of the Group's businesses.

One of the main conclusions of the climate risk analysis is that Repsol is more exposed to transitional risks than to physical risks. However, measures are being implemented to reduce exposure to both risks. Physical risks are those adverse weather phenomena to which Repsol is exposed (hurricanes, floods, changes in rainfall or temperature, etc.), capable of triggering impacts on its activities.

- *Metrics and objectives*: In 2021, a 5% reduction in the CII was achieved. This target was maintained with respect to the previous year, even though activity in the industrial businesses recovered, due to the implementation of energy efficiency plans, the management of methane emissions in E&P operated assets, and the growth of installed renewable capacity, both in Spain and abroad.

  To ensure carbon neutrality by 2050, the Company has set a new target of reducing the net absolute scope 1+2+3 emissions that make up the numerator of the CII by 30% by 2030 compared to base year of 2016. A 22% reduction was achieved in 2021. Emissions were reduced in 2021 as a result of a lower level of activity, especially in the E&P business, with combined cycle plants logging fewer operating hours, as well as a reduction in scope 3 emissions.

  In addition, Repsol has established plans to reduce CO_2 equivalent emissions in order to reduce energy and carbon intensity through efficiency in its operations. Within the framework of the current plan for 2021-2025, and with the aim of achieving an additional reduction of 1.5 Mt CO_2 by 2025, the Company was able to reduce emissions by 0.6 Mt CO_2e in 2021, which in energy terms represents a reduction of 9 million GJ.

  A new target has been set to reduce the intensity of methane emissions from operated assets by 0.2% by 2025 compared to 2017, a value recognized as a standard of operational excellence for the oil and gas sector by international bodies such as the UNEP, and which is consistent with the commitment recently announced by the Oil and Gas Climate Initiative (OGCI), of which Repsol is a member. In 2021, methane intensity reached 0.77% (1.34% in 2017).

A target has also been set to reduce CO_2 equivalent emissions from routine gas flaring by 50% by 2025, with regard to E&P operated assets, the baseline for which was set in 2018. In 2021, routine gas flaring emissions were reduced compared to 2020 (by around 40%), mainly as a result of less activity, which as a whole has resulted in a 5% decrease compared to the base year (2018).

Greenhouse gas emissions over the last six years have been as follows:

Mt CO_2e (CO_2, CH_4 and N_2O)	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**
Scope 1 emissions [(1)]	19.4	22.4	24.7	22.0	23.0	24.9
Scope 2 emissions [(2)]	0.4	0.5	0.5	0.4	0.4	0.5
Scope 3 emissions [(3)]	157	157	189	194	193	183

[(1)] Scope 1 (direct emissions from the Company's activities).
[(2)] Scope 2 (indirect emissions associated with the purchase of electricity and steam from third parties).
[(3)] Scope 3 (indirect emissions associated with the use of products sold and the production of raw materials such as crude oil and hydrogen).

– Governance: The entire organization, businesses, corporate areas and employees are involved in achieving the climate change objectives. The Board of Directors approved the decarbonization strategy and the climate change policy, and it monitors compliance with the objectives included in the Strategic Plan on a quarterly basis, analyzing, among others, the indicators related to sustainability and energy transition. Its Sustainability, Audit and Control, and Remuneration Committees also play an important role in the deployment of the strategy and policy defined by the Board.

  The Executive Committee (EC) is the body that is directly responsible for managing climate change issues, strategic decisions and lines of action. The EC approves the Strategic Plan, the multi-annual strategic objectives and the annual targets to reduce greenhouse gas (GHG) emissions.

  The EC, together with the Sustainability Committee and the Audit and Control Committee of the Board, holds quarterly meetings to monitor the information on the implementation of the climate change strategy, as well as the management of and progress regarding compliance with the CII.

  The Company's climate change objectives have a direct impact on the variable remuneration of all employees.

Within the framework of its commitments to decarbonization and the energy transition, and taking into consideration the related risks and opportunities described in this Note, Repsol reviews the main assumptions for the assessment of both future investments and existing assets. In particular, short-term expectations regarding future crude oil and gas prices have been revised upwards, along with short- and long-term expectations regarding the cost of CO_2 emissions, forming a scenario that is in line with the climate objectives of the Paris Agreement and Sustainable Development Goals of the United Nations. (see Note 21).

30.1) CO2 emission allowances

Emission allowances are recognized as inventory and are initially recognized at acquisition cost. Those allowances free of charge received under the emissions trading system for the 2013-2020 period, are initially recognized as inventory 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 CO_2 are issued, the deferred income is reclassified to profit or loss.

They are not amortized 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 CO_2 emissions released during the year, recognizing a provision calculated based on the tons of CO_2 emitted above those emission allowances at zero cost, measured at: (i) their carrying amount in the case of the allowances that the Group has at year end; and (ii) the closing list price in the case of allowances that it does not yet have at year end.

When the emissions allowances for the tons of CO_2 emitted are delivered to the authorities, the inventories and their corresponding provision are derecognized from the balance sheet without any effect on the income statement.

When CO_2 emission allowances are actively managed to take advantage of market trading opportunities, the trading allowances portfolio is classified as trading inventories (see Note 17).

In relation to the estimated price of CO_2 emission allowances to calculate the recoverable amount of the assets, see Notes 3 and 21.

In Europe, phase 4 of the EU Emissions Trading System (EU-ETS) began, which covers the period from 2021 to 2030. This phase takes into account the target of reducing CO_2 emissions by 55% by 2030 compared to 1990, in line with the goal of zero net emissions by 2050 set out in the European Green Deal. To meet these targets, the sectors affected by the EU ETS must reduce their emissions by 61% compared to 2005. To increase the rate of reduction, the global number of emission allowances will decrease at an annual rate of 2.2% from 2021, and going forward a 4.2% reduction is planned to reach the target set for 2030.

The movements in provisions recognized in respect of CO2 emission allowances (see Note 15) used in 2021 and 2020 is as follows:

	€ Million	
	2021	**2020**
Opening balance for the year	**281**	**325**
Provisions charged to the income statement [(1)]	479	281
Reclassifications and other movements [(2)]	(291)	(325)
Balance at year end	**469**	**281**

[(1)] Corresponds to the expense incurred to acquire the allowances needed to cover the Group's CO2 emissions.
[(2)] In 2021 and 2020, corresponds to the derecognition of allowances used to cover emissions made in 2020 and 2019, respectively (see Note 11).

In 2021 and 2020, the Group companies recognized emission allowances allocated free of charge under the Spanish National Allocation Plan equivalent to 7.6 million tons of CO2, initially measured at €260 million and €189 million, respectively (see Note 17).

The net cost of carbon management amounted to €220 million in 2021 and €96 million in 2020, corresponding mainly to the CO2 emitted by industrial complexes in Spain not covered by free emission allowances.

30.2) Environmental investment, expenses and provisions[35]

Environmental investments in 2021[36] amounted to €97 million (€47 million classified as "*work in progress*" at December 31). These investments most notably include those aimed at fulfilling the obligations assumed by the Company with regard to the energy transition (energy savings, energy efficiency or use of waste as raw material), management and optimization of water consumption, reduction of atmospheric emissions and soil remediation. In 2021 the following are particularly noteworthy: in Chemicals, the replacement of the raw gas turbine in Puertollano, which improved energy efficiency, and the launch of the project to adapt 80,000 tons of pyrolysis oil in Tarragona, which will enable the plant to generate plastics with a circular life cycle; and in Refining, the motorization and modernization of the gas compressor of a platform unit and the use of smoke heat in furnaces, a reduction in flare emissions by installing a system to recover the gases discharged, and a reduction in water consumption.

Environmental expenses, which are recognized under "*Procurements*" and "*Other operating expenses*", excluding the expenses for the allowances necessary to cover CO2 emissions (see previous section), amounted to €76 million and €79 million in 2021 and 2020, respectively. In 2021, of note are the actions carried out for the protection of the atmosphere in the industrial facilities amounting to €19 million (€28 million in 2020); water management amounting to €17 million (€16 million in 2020); and waste management amounting to €16 million (€13 million in 2020).

Provisions for environmental actions[37] at December 31, 2021 amount to €84 million, with no significant provisions recognized during the year. In addition, the Group has recognized field decommissioning provisions for its hydrocarbon exploration and production assets and its renewable generation asset (see Note 15).

The corporate insurance policies cover, subject to terms and conditions, civil liability for pollution on land and at sea and certain liabilities vis-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.

[35] Items identified as of 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 in accordance with the guidelines issued by the American Petroleum Institute (API).
[36] For additional information on the Group's investments in low-carbon generation businesses, see sections 5.3 and 6 of the consolidated Management Report, and for investments that contribute to mitigating and adapting to climate change in accordance with the EU's Sustainable Finance Taxonomy, see Appendix V.e) of said Report.
[37] Repsol recognizes the provisions required to cover measures aimed at preventing and repairing environmental impact. These provisions are presented under "*Current and non-current provisions*" on the balance sheet and under "*Other provisions*" in the table reconciling the movement in provisions in Note 15.

(31) Further breakdowns

31.1) Staff[38]

The Repsol Group employed a total of 23,900 people at December 31, 2021, geographically distributed as follows: Spain (16,759), North America (1,151), South America (3,781), Europe, Africa and Brazil (1,719), and Asia and Russia (490). Average headcount in 2021 was (23,931) employees (24,183 employees in 2020).

Below is a breakdown of the Group's total staff[39] distributed by professional category and gender at year-end 2021 and 2020:

	2021		2020	
	Men	Women	Men	Women
Executives	184	46	196	46
Technical Managers	1,540	733	1,631	766
Technicians	6,681	3,612	6,738	3,626
Manual workers and junior personnel	6,419	4,685	6,314	4,476
Total	**14,824**	**9,076**	**14,879**	**8,914**

The Repsol Group employed a total of 475 differently-abled people at December 31, 2021 (1.97% of its workforce).

In Spain, in 2021, using the computation criteria stipulated in the Spanish law on the rights of disabled persons and their social inclusion (*Ley General de derechos de las personas con discapacidad y de su inclusión social*), the Group surpassed the legally required percentage threshold: its differently-abled workforce accounted for 2.29% of its workforce, namely 408 direct hires.

31.2) Fees paid to auditors

The fees for audit services and other services provided during the year to Repsol Group companies by PricewaterhouseCoopers Auditores, S.L. and the companies in its network (PwC), as well as the fees for those provided by other audit firms, are shown below:

	Main auditor	
€ Million	**2021**	**2020**
Audit services	6.0	6.3
Other services (1)	1.4	1.4
Total (2)	**7.4**	**7.7**

(1) No tax services were provided during either year.
(2) The fees approved in 2021 for PricewaterhouseCoopers Auditores, S.L. (not including companies that are part of its network) for audit services and other services amounted to €4.3 million and €1.2 million, respectively.

"Audit services" includes the fees relating to the audit of the separate and consolidated financial statements of Repsol, S.A. and of the companies forming part of its Group.

"*Other services"* includes professional services related to the audit, mainly comprising the review of the Internal Control over Financial Reporting System, a limited review of the interim condensed consolidated financial statements, verifications and certifications for partners and official bodies, reports for the issuance of bonds and other marketable securities (comfort letters), as well as the verification of the non-financial information of the 2021 consolidated Management Report.

31.3) Other annual information

Along with these consolidated Financial Statements, Repsol publishes annual information that is available on the Repsol website (www.repsol.com):

- Consolidated Management Report, which includes the Statement of Non-Financial Information, the Annual Corporate Governance Report and the Annual Report on Directors' Remuneration.
- Alternative Performance Measures (APMs).
- Information on oil and gas exploration and production activities.
- Report on payments to governments on oil and gas exploration and production activities.

The Shareholder Information Office is located at calle Méndez Álvaro, 44, Madrid and its telephone number is 900.100.100.

[38] For further information on the workforce and human resource management policies, see section 6.5 of the 2021 consolidated Management Report.
[39] 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.

(32) Subsequent events

- In January 2022 Repsol completed the sales in Malaysia (PM3 CAA, Kinabalu and PM305/314), Ecuador (blocks 16 and 67) and Russia (Karabashky block), which did not have a significant impact on the Group's financial statements.
- On January 15, 2022, an oil spill occurred at the facilities of the Multiboyas Terminal No. 2 of the La Pampilla Refinery while unloading crude oil from the Mare Doricum tanker. The spill has had an impact on people and the natural environment, as well as on marine species off the coast of Peru. Having analyzed the technical information available, the amount of oil spilled is estimated to be approximately 10,396 barrels, which is being recovered through intensive cleanup work of the sea and beaches affected. Repsol affirms its commitment to continue mitigating and remedying the effects of the spill, and to work with the authorities and the communities affected, and to respond to the public in the most effective manner with complete transparency. Based on the information available at the date of authorization for issue of these Financial Statements, Repsol does not expect any significant impact on the Group's financial statements.
- The Central Examining Court No. 6 of the National Appellate Court declared, through orders dated July 29 and September 20, 2021 —issued in sub-proceedings no. 21 in relation to the hiring of Cenyt, S.A. ("Cenyt")—, that the proceedings would be provisionally dismissed and closed, respectively, with regard to Repsol, S.A. ("Repsol" or "the Company") and its Chairman, and declared the provisional dismissal and closing of the investigation with regard to the Secretary Director and two former executives. Both rulings have been appealed.

  On February 7, 2022, the Court ruled with regard to the first proceedings, rendering the dismissal of the case null and void, and indicated that additional investigation proceedings should take place.

  Repsol believes that these additional proceedings will corroborate the conclusions reached by the Central Examining Court No. 6 in July and September 2021 as a result of the exhaustive investigation carried out.

  The Company reaffirms that it acted correctly and that there has been no unlawful conduct or conduct contrary to the Company's Code of Ethics and Conduct by any current or former director, executive or employee, reiterating its commitment to full cooperation with the authorities and its confidence in the Spanish Courts and Tribunals.

(33) 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, 2021

Name	Parent company	Country	Corporate purpose	Method of conso. [1]	December 2021 % Control Int. [2]	% Total Group Interest	€ Million Equity [3]	€ Million Share Capital [3]
UPSTREAM								
504744 Alberta, Ltd.	Repsol Canada Energy Partnership	Canada	Oil and gas exploration and production [11]	F.C.	100.00	100.00	(7)	—
7308051 Canada, Ltd.	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production	F.C.	100.00	100.00	108	289
8441251 Canada, Ltd.	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production	F.C.	100.00	100.00	17	15
8787352 Canada, Ltd.	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production	F.C.	100.00	100.00	2	2
Agri Development, B.V. [15]	Repsol Sinopec Brasil, B.V.	Netherlands	Platform for production of crude oil and natural gas	E.M.(J.V.)	10.00	6.00	—	—
Akakus Oil Operations, B.V.	Repsol Exploración Murzuq, S.A.	Netherlands	Oil and gas exploration and production	E.M.	49.00	49.00	—	—
ASB Geo, Llc.	Repsol Exploración, S.A.	Russia	Oil and gas exploration and production	E.M.(J.V.)	50.01	50.01	—	—
BP Trinidad & Tobago, Llc. [15]	BPRY Caribbean Ventures, Llc.	United States	Oil and gas exploration and production	E.M.(J.V.)	100.00	30.00	—	—
BPRY Caribbean Ventures, Llc. [14]	Repsol Exploración, S.A.	United States	Oil and gas exploration and production	E.M.(J.V.)	30.00	30.00	239	2,756
Cardón IV, S.A. [14]	Repsol Exploración, S.A.	Venezuela	Oil and gas exploration and production	E.M.(J.V.)	50.00	50.00	(188)	4
Edwards Gas Services, Llc.	Repsol Oil & Gas USA, LLC	United States	Portfolio company	F.C.	100.00	100.00	83	117
Equion Energía, Ltd. [14]	Talisman Colombia Holdco, Ltd.	United Kingdom	Oil and gas exploration and production	E.M.(J.V.)	49.00	49.00	655	—
Fortuna International (Barbados), Inc [12]	Talisman International (Luxembourg), S.a.r.l.	Barbados	Portfolio company	F.C.	100.00	100.00	43	68
Fortuna International Petroleum Corporation	Repsol Exploración, S.A.	Barbados	Portfolio company	F.C.	100.00	100.00	172	161
Fortuna Resources (Sunda), Ltd. [9]	Talisman UK (South East Sumatra), Ltd.	Indonesia	Oil and gas exploration and production [11]	F.C.	100.00	100.00	27	—
Guará, B.V. [15]	Repsol Sinopec Brasil, B.V.	Netherlands	Platform for production of crude oil and natural gas	E.M.	25.00	15.00	2	—
JSC Eurotek - Yugra	Repsol Exploración Karabashsky, B.V.	Russia	Oil and gas exploration and production	E.M.(J.V.)	67.43	67.43	(51)	—
Lapa Oil & Gas, B.V. [15]	Repsol Sinopec Brasil, B.V.	Netherlands	Platform for production of crude oil and natural gas	E.M.	25.00	15.00	2	—
Oleoducto de Crudos Pesados, Ltd.	Repsol OCP de Ecuador, S.A.	Cayman Islands	Portfolio company	E.M.	29.66	29.66	42	89
Paladin Resources, Ltd.	FEHI Holding, S.a.r.l. [30]	United Kingdom	Portfolio company	F.C.	100.00	100.00	29	296
Petrocarabobo, S.A.	Repsol Exploración, S.A.	Venezuela	Oil and gas exploration and production	E.M.(J.V.)	11.00	11.00	(148)	548
Petroquiriqué, S.A. - Empresa Mixta [14]	Repsol Exploración, S.A.	Venezuela	Oil and gas exploration and production	E.M.(J.V.)	40.00	40.00	(1,250)	230
Quiriquiré Gas, S.A.	Repsol Venezuela, S.A.	Venezuela	Oil and gas exploration and production	E.M.(J.V.)	60.00	60.00	—	—
Repsol Alberta Shale Partnership	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production	F.C.	100.00	100.00	169	1,498
Repsol Andaman B.V.	Talisman International Holdings, B.V.	Netherlands	Oil and gas exploration and production	F.C.	100.00	100.00	36	—
Repsol Angostura, Ltd. [6]	Repsol Exploración, S.A.	Trinidad and Tobago	Oil and gas exploration and production	F.C.	100.00	100.00	1	38
Repsol Bolivia, S.A.	Repsol Upstream Inversiones, S.A.	Bolivia	Provision of services	F.C.	100.00	100.00	328	14
Repsol Bulgaria Khan Kubrat, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production [11]	F.C.	100.00	100.00	14	—
Repsol Canada Energy Partnership	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production	F.C.	100.00	100.00	438	1,350
Repsol Colombia Oil & Gas Limited	Repsol Exploración, S.A.	Canada	Oil and gas exploration and production	F.C.	100.00	100.00	541	784
Repsol Corridor, S.A.	Fortuna International (Barbados), Inc.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	193	41
Repsol Ductos Colombia, S.A.S.	Talisman Colombia Holdco, Ltd.	Colombia	Oil and gas exploration and production	F.C.	100.00	100.00	74	3
Repsol E&P Bolivia, S.A.	Repsol Bolivia, S.A.	Bolivia	Oil and gas exploration and production	F.C.	100.00	100.00	640	2
Repsol E&P USA Holdings, Inc.	Repsol Oil & Gas Holdings USA, Inc.	United States	Oil and gas exploration and production	F.C.	100.00	100.00	1,540	1,671
Repsol E&P USA, Llc.	Repsol USA Holdings LLC	United States	Oil and gas exploration and production	F.C.	100.00	100.00	2,876	2,902
Repsol Ecuador, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	F.C.	98.36	100.00	85	6

Name	Parent company	Country	Corporate purpose	Method of conso. [1]	December 2021 % Control Int. [2]	% Total Group Interest	€ Million Equity [3]	€ Million Share Capital [3]
Repsol Exploração Brasil, Ltda.	Repsol, S.A.	Brazil	Oil and gas exploration and production	F.C.	100.00	100.00	949	900
Repsol Exploración 405A, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	195	—
Repsol Exploración Aitoloakarnania, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production [11]	F.C.	100.00	100.00	6	—
Repsol Exploración Argelia, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	387	5
Repsol Exploración Aru, S.L	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	1	—
Repsol Exploración Atlas, S.A. [32]	Repsol E&P Bolivia, S.A.	Bolivia	Oil and gas exploration and production	F.C.	100.00	100.00	(3)	1
Repsol Exploración Colombia, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	(24)	2
Repsol Exploración Gharb, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production [11]	F.C.	100.00	100.00	5	—
Repsol Exploración Guinea, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production [11]	F.C.	100.00	100.00	—	—
Repsol Exploración Guyana, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	31	—
Repsol Exploración Ioannina, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production [11]	F.C.	100.00	100.00	25	—
Repsol Exploración Irlanda, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production [11]	F.C.	100.00	100.00	15	—
Repsol Exploración Karabashsky, B.V.	Repsol Exploración, S.A.	Netherlands	Oil and gas exploration and production	F.C.	100.00	100.00	26	131
Repsol Exploración México, S.A. de C.V.	Repsol Exploración, S.A.	Mexico	Oil and gas exploration and production	F.C.	100.00	100.00	179	253
Repsol Exploración Murzuq, S.A.	Repsol Upstream Inversiones, S.A.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	(169)	9
Repsol Exploración Perú, S.A.	Repsol Upstream Inversiones, S.A.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	410	12
Repsol Exploracion South East Jambi B.V.	Repsol Exploración, S.A.	Netherlands	Oil and gas exploration and production	F.C.	100.00	100.00	6	—
Repsol Exploración South Sakakemang, S.L.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	3	2
Repsol Exploración Tanfit, S.L.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production [11]	F.C.	100.00	100.00	8	3
Repsol Exploración Tobago, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	12	—
Repsol Exploración West Papúa IV, S.L.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	2	—
Repsol Exploración, S.A.	Repsol, S.A.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	6,943	27
Repsol Finance Brasil B.V.[5]	Repsol Exploração Brasil Ltda.	Brazil	Financing and holding of shares	F.C.	100.00	100.00	2	4
Repsol Greece Ionian, S.L.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production [11]	F.C.	100.00	100.00	3	—
Repsol Groundbirch Partnership	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production	F.C.	100.00	100.00	2	229
Repsol Investigaciones Petrolíferas, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	343	210
Repsol Norge, AS	Repsol Exploración, S.A.	Norway	Oil and gas exploration and production	F.C.	100.00	100.00	222	—
Repsol OCP de Ecuador, S.A.	Repsol Ecuador, S.A.	Ecuador	Operation of a pipeline for oil and gas transport	F.C.	99.02	99.94	48	—
Repsol Offshore E&P USA, Inc.	Repsol USA Holdings LLC	United States	Oil and gas exploration and production [11]	F.C.	100.00	100.00	11	29
Repsol Oil & Gas Australasia Pty, Ltd.	Talisman International Holdings, B.V.	Australia	Shared services company	F.C.	100.00	100.00	—	67
Repsol Oil & Gas Australia (JPDA 06-105) Pty Ltd.	Paladin Resources, Ltd.	Australia	Oil and gas exploration and production	F.C.	100.00	100.00	26	144
Repsol Oil & Gas Canada, Inc. [10]	Repsol Exploración, S.A.	Canada	Oil and gas exploration and production	F.C.	100.00	100.00	5,361	6,653
Repsol Oil & Gas Gulf of Mexico, LLC	Repsol E&P USA Holdings Inc.	United States	Oil and gas exploration and production	F.C.	100.00	100.00	313	—
Repsol Oil & Gas Holdings USA, Inc.	FEHI Holding, S.a.r.l.	United States	Oil and gas exploration and production	F.C.	100.00	100.00	7,159	1,900
Repsol Oil & Gas Malaysia (PM3), Ltd.	Fortuna International Petroleum Corporation	Barbados	Oil and gas exploration and production	F.C.	100.00	100.00	(33)	10
Repsol Oil & Gas Malaysia, Ltd.	Fortuna International Petroleum Corporation	Barbados	Oil and gas exploration and production	F.C.	100.00	100.00	58	—
Repsol Oil & Gas RTS Sdn, Bhd.	Repsol Exploración, S.A.	Malaysia	Shared services company [11]	F.C.	100.00	100.00	2	18
Repsol Oil & Gas USA, LLC.	Repsol USA Holdings LLC	United States	Oil and gas exploration and production	F.C.	100.00	100.00	2,028	1,787
Repsol Oil & Gas Vietnam 07/03 Pty Ltd.	Repsol Exploración, S.A.	Australia	Oil and gas exploration and production [11]	F.C.	100.00	100.00	1	—

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Repsol Oriente Medio, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production (11)	F.C.	100.00	100.00	69	—
Repsol Perpetual Norge, A.S.	Talisman Perpetual (Norway), Ltd.	Norway	Oil and gas exploration and production (11)	F.C.	100.00	100.00	—	1
Repsol Sakakemang, B.V.	Talisman International Holdings, B.V.	Netherlands	Oil and gas exploration and production	F.C.	100.00	100.00	120	—
Repsol Services Company	Repsol USA Holdings LLC	United States	Provision of services	F.C.	100.00	100.00	44	39
Repsol Servicios Colombia, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	F.C.	100.00	100.00	5	—
Repsol Sinopec Brasil, S.A. (14)	Repsol Upstream B.V.	Brazil	Operation and sale of oil and gas	E.M.(J.V.)	60.01	60.01	2,178	1,986
Repsol Sinopec Brasil, B.V. (15) (29)	Repsol Exploração Brasil Ltda.	Brazil	Portfolio company	E.M.(J.V.)	60.00	60.00	22	14
Repsol Sinopec Resources UK Ltd. (14)	Talisman Colombia Holdco, Ltd.	United Kingdom	Oil and gas exploration and production	E.M.(J.V.)	51.00	51.00	1,155	4,358
Repsol Transgasindo S.à r.l.	Fortuna International (Barbados), Inc.	Luxembourg	Portfolio company	F.C.	100.00	100.00	(52)	26
Repsol U.K., Ltd.	Repsol Exploración, S.A.	United Kingdom	Oil and gas exploration and production	F.C.	100.00	100.00	3	16
Repsol Upstream B.V. (18)	Repsol, S.A.	Netherlands	Portfolio company	F.C.	100.00	100.00	2,312	1
Repsol Upstream Inversiones, S.A. (19)	Repsol Upstream B.V.	Spain	Portfolio company	F.C.	100.00	100.00	1,758	—
Repsol USA Holdings LLC (22)	Repsol Oil & Gas Holdings USA, Inc. (23)	United States	Oil and gas exploration and production	F.C.	100.00	100.00	4,743	4,776
Repsol Venezuela, S.A.	Repsol Exploración, S.A.	Venezuela	Oil and gas exploration and production	F.C.	100.00	100.00	130	708
Sierracol Energy Arauca, LLC	Repsol International Finance, B.V.	Colombia	Portfolio company	E.M.(J.V.)	25.00	25.00	127	93
Talisman (Asia), Ltd.	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production (11)	F.C.	100.00	100.00	(135)	5
Talisman (Block K 39), B.V.	Repsol Exploración, S.A.	Netherlands	Oil and gas exploration and production (11)	F.C.	100.00	100.00	(2)	—
Talisman (Jambi Merang), Ltd.	Talisman International Holdings, B.V.	Indonesia	Oil and gas exploration and production (11)	F.C.	100.00	100.00	2	71
Talisman (Sageri), Ltd.	Repsol Oil & Gas Canada, Inc.	Indonesia	Oil and gas exploration and production (11)	F.C.	100.00	100.00	(85)	—
Talisman (Sumatra), Ltd.	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production (11)	F.C.	100.00	100.00	—	—
Talisman (Vietnam 133 & 134), Ltd.	Repsol Exploración, S.A.	Vietnam	Oil and gas exploration and production (11)	F.C.	100.00	100.00	1	32
Talisman Colombia Holdco, Ltd.	Repsol Exploración, S.A.	United Kingdom	Portfolio company	F.C.	100.00	100.00	1,121	1,883
Talisman East Jabung, B.V.	Talisman International Holdings, B.V.	Netherlands	Oil and gas exploration and production (11)	F.C.	100.00	100.00	3	—
Talisman Perpetual (Norway), Ltd.	FEHI Holding, S.a.r.l. (30)	United Kingdom	Portfolio company (11)	F.C.	100.00	100.00	—	1
Talisman Resources (Bahamas), Ltd. (8)	Paladin Resources, Ltd.	Bahamas	Oil and gas exploration and production (11)	F.C.	100.00	100.00	1	—
Talisman Resources (North West Java), Ltd.	Talisman UK (South East Sumatra), Ltd.	Indonesia	Oil and gas exploration and production (11)	F.C.	100.00	100.00	34	—
Talisman South Sageri, B.V.	Talisman International Holdings, B.V.	Netherlands	Oil and gas exploration and production (11)	F.C.	100.00	100.00	—	—
Talisman UK (South East Sumatra), Ltd.	Paladin Resources, Ltd.	United Kingdom	Oil and gas exploration and production (11)	F.C.	100.00	100.00	36	—
Talisman Vietnam 07/03, B.V.	Repsol Exploración, S.A.	Netherlands	Oil and gas exploration and production (11)	F.C.	100.00	100.00	39	—
Talisman Vietnam 07/03-CRD Corporation, Llc.	Talisman International Holdings, B.V.	Vietnam	Oil and gas exploration and production (11)	F.C.	100.00	100.00	16	—
Talisman Vietnam 135-136, B.V.	Repsol Exploración, S.A.	Vietnam	Oil and gas exploration and production (11)	F.C.	100.00	100.00	79	—
Talisman Vietnam 146-147, B.V.	Repsol Exploración, S.A.	Vietnam	Oil and gas exploration and production (11)	F.C.	100.00	100.00	7	—
Talisman Vietnam, Ltd.	Fortuna International Petroleum Corporation	Vietnam	Oil and gas exploration and production	F.C.	100.00	100.00	3	—
Transportadora Sulbrasileira del Gas, S.A.	Repsol Exploração Brasil Ltda	Brazil	Gas pipeline construction and operation	E.M.(J.V.)	25.00	25.00	—	9
Transworld Petroleum (U.K.) Ltd.	Repsol Sinopec North Sea, Ltd.	United Kingdom	Oil and gas exploration and production	E.M.(J.V.)	100.00	51.00	—	—
Triad Oil Manitoba, Ltd.	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production (11)	F.C.	100.00	100.00	5	—
Vung May 156 - 159 Vietnam, B.V.	Repsol Exploración, S.A.	Netherlands	Oil and gas exploration and production (11)	F.C.	100.00	100.00	—	—
YPFB Andina, S.A. (14)	Repsol Bolivia, S.A.	Bolivia	Oil and gas exploration and production	E.M.(J.V.)	48.33	48.33	661	156

Name	Parent company	Country	Corporate purpose	Method of conso. [1]	December 2021 % Control Int. [2]	Total Group Interest	€ Million Equity [3]	Share Capital [3]
YPFB Transierra, S.A. [15]	YPFB Andina, S.A.	Bolivia	Transport of oil and gas by pipeline	E.M.	44.50	21.51	213	71
INDUSTRIAL								
Alba Emission Free Energy, S.A. [5]	Petróleos del Norte, S.A.	Spain	Decarbonization activities	F.C.	100.00	85.98	—	—
Asfaltos Españoles, S.A.	Repsol Petróleo, S.A.	Spain	Asphalts	(4)	50.00	49.99	36	9
Cogeneración Gequisa, S.A. [13]	General Química, S.A.U.	Spain	Production of electricity and steam	E.M.	39.00	19.50	7	2
Compañía Auxiliar de Remolcadores y Buques Especiales, S.A.	Repsol Petróleo, S.A.	Spain	Provision of maritime services	F.C.	100.00	99.21	7	—
Dynasol China, S.A. de C.V. [13]	Dynasol Gestión México, S.A.P.I. de C.V.	Mexico	Provision of services	E.M.(J.V.)	99.99	50.00	18	20
Dynasol Elastómeros, S.A. de C.V. [13]	Dynasol Gestión México, S.A.P.I. de C.V.	Mexico	Production and sale of chemical products	E.M.(J.V.)	99.99	50.00	95	28
Dynasol Elastómeros, S.A.U. [13]	Dynasol Gestión, S.L.	Spain	Production and sale of chemical products	E.M.(J.V.)	100.00	50.00	94	17
Dynasol Gestión México, S.A.P.I. de C.V. [13]	Repsol Química, S.A.	Mexico	Portfolio and shared services company	E.M.	50.00	50.00	222	181
Dynasol Gestión, S.L.	Repsol Química, S.A.	Spain	Portfolio and shared services company	E.M.	50.00	50.00	222	42
Dynasol, Llc. [13]	Dynasol Gestión, S.L.	United States	Sale of petrochemical products	E.M.(J.V.)	100.00	50.00	17	11
Energía Distribuida del Norte, S.A.	Petróleos del Norte, S.A.	Spain	Construction and operation of an oil refinery	F.C.	100.00	85.98	—	—
General Química, S.A.U. [13]	Dynasol Gestión, S.L.	Spain	Manufacture and sale of petrochemical products	E.M.(J.V.)	100.00	50.00	49	6
Grupo Repsol del Perú, S.A.C.	Repsol Perú, B.V.	Peru	Shared services company	F.C.	100.00	100.00	1	—
Iberian Lube Base Oils Company, S.A.	Repsol Petróleo, S.A.	Spain	Development and production of lubricant base oils	(4)	30.00	29.99	250	180
Industrias Negromex, S.A. de C.V. [13]	Dynasol Gestión México, S.A.P.I. de C.V.	Mexico	Manufacture of synthetic oil cloths	E.M.	99.99	50.00	91	49
Insa Gpro (Nanjing), Synthetic Rubber Co. Ltd. [13]	Dynasol China, S.A. de C.V.	China	Manufacture, development, sale of synthetic rubber	E.M.(J.V.)	50.00	25.00	20	38
Liaoning North Dynasol Synthetic Rubber Co. Ltd. [13]	Dynasol Gestión, S.L.	China	Manufacture, development, sale of synthetic rubber	E.M.(J.V.)	50.00	25.00	12	104
Petróleos del Norte, S.A.	Repsol Industrial Transformation, S.L	Spain	Construction and operation of an oil refinery	F.C.	85.98	85.98	1,633	121
Petronor Innovación, S.L.	Petróleos del Norte, S.A.	Spain	Research activities	F.C.	100.00	85.98	1	—
Polidux, S.A.	Repsol Química, S.A.	Spain	Manufacture and sale of petrochemical products	F.C.	100.00	100.00	19	17
Refinería La Pampilla, S.A.A.	Repsol Perú, B.V.	Peru	Refining and sale of oil and gas	F.C.	99.20	99.20	554	656
Relkia Distribuidora de Electricidad, S.L	Repsol Petróleo, S.A.	Spain	Distribution of electricity	F.C.	100.00	99.97	11	—
Repsol Canadá, Ltd.	Repsol Exploración, S.A.	Canada	Regasification of LNG	F.C.	100.00	100.00	(5)	2
Repsol Chemie Deutschland, GmbH	Repsol Química, S.A.	Germany	Sale of chemical products	F.C.	100.00	100.00	3	—
Repsol Comercial, S.A.C.	Refinería La Pampilla, S.A.A.	Peru	Sale of fuel	F.C.	100.00	92.42	87	74
Repsol Energy North América Corporation	Repsol USA Holdings LLC	United States	Sale of LNG	F.C.	100.00	100.00	(239)	623
Repsol Energy Perú, S.A.C.	Repsol Comercial, S.A.C.	Peru	Sale of solid, liquid and gaseous fuels and related products [11]	F.C.	100.00	92.42	3	—
Repsol Hidrógeno, S.A.[5]	Repsol Industrial Transformation, S.L	Spain	Production, storage, consumption and transformation of hydrogen	F.C.	100.00	100.00	2	—
Repsol Industrial Transformation, S.L [16]	Repsol, S.A.	Spain	Portfolio company	F.C.	100.00	100.00	6,576	—
Repsol LNG Holding, S.A.	Repsol Industrial Transformation, S.L [26]	Spain	Sale of oil and gas	F.C.	100.00	100.00	12	2
Repsol Marketing, S.A.C.	Repsol Customer Centric, S.L.U.[25]	Peru	Sale of fuel and special products	F.C.	100.00	97.79	1	3
Repsol Perú, B.V.	Repsol, S.A.	Netherlands	Portfolio company	F.C.	100.00	100.00	406	342

Name	Parent company	Country	Corporate purpose	Method of conso. (1)	December 2021 % Control Int. (2)	Total Group Interest	€ Million Equity (3)	Share Capital (3)
Repsol Petróleo, S.A.	Repsol Industrial Transformation, S.L	Spain	Import of products and operation of refineries	F.C.	99.97	99.97	1,152	218
Repsol Polímeros, Unipessoal, Lda.	Repsol Química, S.A.	Portugal	Manufacture and sale of petrochemical products	F.C.	100.00	100.00	276	62
Repsol Química, S.A.	Repsol Industrial Transformation, S.L	Spain	Manufacture and sale of petrochemical products	F.C.	100.00	100.00	1,179	60
Repsol St. John LNG, S.L	Repsol LNG Holding, S.A.	Spain	Sector studies (11)	F.C.	100.00	100.00	—	—
Repsol Trading Perú, S.A.C.	Repsol Trading, S.A.	Peru	Trading and transport	F.C.	100.00	100.00	10	9
Repsol Trading Singapore Pte, Ltd.	Repsol Trading, S.A.	Singapore	Trading and transport	F.C.	100.00	100.00	(69)	—
Repsol Trading USA Corporation	Repsol USA Holdings LLC	United States	Trading and transport	F.C.	100.00	100.00	107	279
Repsol Trading, S.A.	Repsol Industrial Transformation, S.L	Spain	Storage, sale, trading and transport	F.C.	100.00	100.00	369	—
Saint John LNG Development Company Ltd.	Repsol Saint John LNG, S.L.	Canada	Liquefaction plant investment project in Canada (11)	F.C.	100.00	100.00	—	3
Saint John LNG Limited Partnership (33)	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production	F.C.	100.00	100.00	—	—
Servicios de Seguridad Mancomunados, S.A.	Repsol Petróleo, S.A.	Spain	Safety	F.C.	100.00	99.98	1	—
COMMERCIAL AND RENEWABLES								
Abastecimentos e Serviços de Aviaçao, Lda.	Repsol Portuguesa, Lda	Portugal	Sale of oil products	E.M.	50.00	50.00	—	—
Air Miles España, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Travel Club Program. Loyalty services	E.M.	26.67	25.86	13	—
Alectoris Energía Sostenible 1, S.L.	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	51.00	51.00	59	—
Alectoris Energía Sostenible 3, S.L.	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	51.00	51.00	53	—
Ampere Power Energy, S.L.	Repsol Energy Ventures, S.A.	Spain	Manufacture and sale of storage batteries	E.M.	6.64	6.64	21	1
Aragonesa de Infraestructuras Energéticas Renovables, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	4	—
Arco Energía 1, S.L.U.	Repsol Renovables, S.L.U	Spain	Sun power project	F.C.	100.00	100.00	1	—
Arco Energía 2, S.L.U.	Repsol Renovables, S.L.U	Spain	Sun power project	F.C.	100.00	100.00	1	—
Arco Energía 3, S.L.U.	Repsol Renovables, S.L.U	Spain	Sun power project	F.C.	100.00	100.00	1	—
Arco Energía 4, S.L.U.	Repsol Renovables, S.L.U	Spain	Sun power project	F.C.	100.00	100.00	1	—
Arco Energía 5, S.L.U.	Repsol Renovables, S.L.U	Spain	Sun power project	F.C.	100.00	100.00	1	—
Arteche y García, S.L.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Installation and operation of service stations	F.C.	100.00	97.71	—	—
Autoservicio Sargento, S.A. de C.V.	Repsol Downstream Internacional, S.A.	Mexico	Installation and operation of service stations	E.M.(J.V.)	50.00	48.89	1	—
Bardahl de México, S.A. de C.V.	Repsol Downstream Internacional, S.A.	Mexico	Production and distribution of lubricants	E.M.(J.V.)	40.00	39.12	147	—
Begas Motor, S.L.	Repsol Energy Ventures, S.A.	Spain	Manufacture, transformation and sale of motor vehicles; manufacture of electrical equipment, parts and accessories.	E.M.	18.91	18.91	5	1
Belmont Technology Inc.	Repsol Energy Ventures, S.A.	United States	Software platform and virtual assistance in geoscience and reservoir engineering based on artificial intelligence.	E.M.	12.90	12.90	13	13
Benzirep - Vall, S.L.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Installation and operation of service stations	F.C.	100.00	97.71	4	—
Boalar Energías, S.L.U	Repsol Renovables, S.L.U	Spain	Solar power project	F.C.	100.00	100.00	(1)	—
Caiageste - Gestão de Areas de Serviço, Ltda.	GESPOST	Portugal	Operation and management of service stations	E.M.	50.00	50.00	—	—
Campsa Estaciones de Servicio, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Operation and management of service stations	F.C.	100.00	97.71	88	8
Carburants i Derivats, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Andorra	Distribution of oil derivative products	E.M.	33.25	32.45	2	—
CI Repsol Aviación Colombia, S.A.S.	Repsol Downstream Internacional, S.A.	Colombia	Distribution and sale of oil products	F.C.	100.00	97.79	—	—

					December 2021			
					%		€ Million	
Name	**Parent company**	**Country**	**Corporate purpose**	**Method of conso.** [1]	**Control Int.** [2]	**Total Group Interest**	**Equity** [3]	**Share Capital** [3]
Combustibles Sureños, S.A. de C.V.	Repsol Downstream Internacional, S.A.	Mexico	Production and distribution of lubricants	E.M.(J.V.)	50.00	48.89	1	—
Compañía Anónima de Revisiones y Servicios, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Installation and operation of service stations	F.C.	95.00	92.83	3	1
Desarrollo Eólico Las Majas VII, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	50.99	50.99	51	—
Desarrollo Eólico Las Majas VIII, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	2	—
Desarrollo Eólico Las Majas XIV, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	2	—
Desarrollo Eólico Las Majas XV, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	2	—
Desarrollo Eólico Las Majas XXVII, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	3	—
Desarrollo Eólico Las Majas XXXI, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	1	—
Desarrollos Eólicos El Saladar, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	2	—
Distribuidora Andalucía Oriental, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Sale of fuel	E.M.(J.V.)	50.00	48.80	2	1
Distribuidora de Petróleos, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Sale of fuel	F.C.	83.06	83.06	—	—
Ecoplanta Molecular Recycling Solutions, SL [5]	Repsol Industrial Transformation, S.L	Spain	Development, design, construction and operation of molecular recycling facilities	E.M.	39.00	39.00	12	4
Ekiola Construcción, M&O, S.L.[5]	Repsol Customer Centric, S.L.U.	Spain	Generation of electricity from renewable or conventional sources	E.M.	49.00	47.92	—	—
Ekiola Energía Comercializadora, S.L. [5]	Repsol Customer Centric, S.L.U.	Spain	Sale of electricity from renewable or conventional sources	E.M.	51.00	49.87	—	—
Ekiola Promoción, S.L. [5]	Repsol Customer Centric, S.L.U.	Spain	Administrative development of plants producing electricity from renewable sources	E.M.	49.00	47.92	(1)	—
Endomexicana Renta y Servicios, S.A. de C.V.	Repsol Downstream Internacional, S.A.	Mexico	Production and distribution of lubricants	E.M.(J.V.)	40.00	39.12	1	—
Energías Renovables de Cilene, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	1	—
Energías Renovables de Dione, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	1	—
Energías Renovables de Gladiateur 18, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	—	—
Energías Renovables de Hidra, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	1	—
Energías Renovables de Kore, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	2	—
Energías Renovables de Lisitea, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	2	—
Energías Renovables de Polux, S.L.U,	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	1	—
Energy Express, S.L.	Societat Catalana de Petrolis, S.A.	Spain	Operation and management of service stations	F.C.	100.00	92.66	—	—
Eólica del Taltal, SpA	Repsol Chile, SpA	Chile	Wind power project	E.M.	15.00	15.00	10	11
ERNC LOA, SpA	Repsol Ibereólica Renovables Chile SpA	Chile	Wind power project	E.M.	50.00	50.00	32	—
Estación de Servicio Bahía Asunción, S.A. de C.V.	Repsol Downstream Internacional, S.A.	Mexico	Production and distribution of lubricants	E.M.(J.V.)	50.00	48.89	2	—
Estación de Servicio Barajas, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Installation and operation of service stations	F.C.	96.00	93.80	3	1
Estación de Servicio Montsia, S.L.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Installation and operation of service stations	E.M.(J.V.)	50.00	48.80	—	—
Ezzing Renewable Energies S.L.	Repsol Energy Ventures, S.A.	Spain	Development of solar power projects	E.M.	24.32	24.32	12	—
Finboot Ltd.	Repsol Energy Ventures, S.A.	United Kingdom	Blockchain technology for energy, retail and automotive sectors	E.M.	8.54	8.54	9	—
Fuerzas Energéticas del Sur de Europa V, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	51.00	51.00	47	—
Fuerzas Energéticas del Sur de Europa VI, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	51.00	51.00	18	—
Fuerzas Energéticas del Sur de Europa XI, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	51.00	51.00	48	—
Fuerzas Energéticas del Sur de Europa XII, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	51.00	51.00	48	—
Fuerzas Energéticas del Sur de Europa XIII, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	—	—

Name	Parent company	Country	Corporate purpose	Method of conso. [1]	December 2021 % Control Int. [2]	Total Group Interest	€ Million Equity [3]	Share Capital [3]
Fuerzas Energéticas del Sur de Europa XIV, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	—	—
Fuerzas Energéticas del Sur de Europa XVIII, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	1	—
Fuerzas Energéticas del Sur de Europa XX, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	1	—
Gaolania Servicios, S.L. [5]	Repsol Customer Centric, S.L.U.	Spain	Sale of electricity	E.M.	70.00	68.45	14	—
Generación Eólica El Vedado, S.L.	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	51.00	51.00	22	—
Generación y Suministro de Energía, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	2	—
Gestao e Administraçao de Postos de Abastecimiento Unipessoal, Lda.	Repsol Portuguesa, Lda	Portugal	Sale of oil products	F.C.	100.00	97.79	8	2
Gestión Activa de Pedidos S.L. [5]	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Computer programming activities	F.C.	100.00	96.70	—	—
Gestión de Puntos de Venta, Gespevesa, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Service stations management	E.M.(J.V.)	50.00	48.80	37	39
Gutsa Servicios, S.A. de C.V.	Repsol Downstream Internacional, S.A.	Mexico	Operation and management of service stations	E.M.(J.V.)	50.00	48.89	1	—
Hecate Energy Group, LLC [5]	Repsol Renewables North America, Inc	United States	Development of photovoltaic and battery projects for energy storage	E.M.	40.00	40.00	405	108
Hispánica de Desarrollos Energéticos Sostenibles, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	4	—
Iberen Renovables, S.A.	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	12	4
Ibil, Gestor de Carga de Vehículo Eléctrico, S.A.	Repsol Customer Centric, S.L.U.	Spain	Operation of electric vehicle charging points	E.M.(J.V.)	50.00	48.89	1	4
Jicarilla Solar 2 LLC [5]	Repsol Renewables Development Holdings Corp	United States	Development of new energy projects	F.C.	100.00	100.00	—	—
Jicarilla Solar 2 Bond Purchaser LLC [5]	Jicarilla Solar 2 LLC	United States	Development of new energy projects	F.C.	100.00	100.00	—	—
Klikin Deals Spain, S.L.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Customer and oil product marketing management	F.C.	100.00	97.60	3	1
LGA Logística Global de Aviação, Lda.	Repsol Portuguesa, Lda	Portugal	Transport of aviation oil products	E.M.	20.00	19.56	0	1
Nanogap Sub n-m Powder, S.A.	Repsol Energy Ventures, S.A.	Spain	Development of nanoparticles and nanofibers for application in materials, energy and biomedicine	E.M.	12.52	12.52	18	2
Natural Power Development, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	1	—
Nudo Manzanares 220 KV, A.I.E.	Tramperase, S.L.	Spain	Electricity power transmission grid	E.M.	27.60	27.60	19	—
OGCI Climate Investments LLP	Repsol Energy Ventures, S.A.	United Kingdom	Technology development	E.M.	9.09	9.09	271	359
Palmira Market, S.A. de C.V.	Repsol Downstream Internacional, S.A.	Mexico	Management of supermarkets and stores	E.M.(J.V.)	50.00	48.89	1	—
Parque Eólico Antofagasta, SpA	Eólica del Taltal, SpA	Chile	Wind power project	E.M.	100.00	15.00	70	—
Parque Eólico Atacama SPA	Repsol Ibereólica Renovables Chile SpA	Chile	Wind power project	E.M.	100.00	50.00	49	—
PE Cabo Leones III SpA	Repsol Ibereólica Renovables Chile SpA	Chile	Wind power project	E.M.	100.00	50.00	65	7
Perseo Biotechnology S.L.U.	Repsol Energy Ventures, S.A.	Spain	Manufacture, distribution and sale of biofuels	E.M.	24.99	24.99	6	7
PT Pacific Lubritama Indonesia	United Oil Company Pte Ltd	Indonesia	Production and distribution of lubricants	E.M.	95.00	37.16	22	8
Recreus Industries, S.L.	Repsol Energy Ventures, S.A.	Spain	Distribution of oil derivative products	E.M.	16.67	16.67	4	—
Régsiti Comercializadora Regulada, S.L.U.	Repsol Comercializadora de Electricidad y Gas, S.L.U.	Spain	Sale of electricity	F.C.	100.00	97.79	11	1
Renovacyl, S.A.	Iberen Renovables, S.A.	Spain	Wind power projects	F.C.	100.00	100.00	4	1
Repsol Butano, S.A.	Repsol Customer Centric, S.L.U.	Spain	Sale of LGP	F.C.	100.00	97.79	1,017	59
Repsol Chile SpA	Repsol Renovables, S.L.U	Chile	Portfolio company	F.C.	100.00	100.00	17,897	49
Repsol Comercial de Productos Petrolíferos, S.A.	Repsol Customer Centric, S.L.U.	Spain	Sale of oil products	F.C.	99.79	97.60	3,559	335
Repsol Comercializadora de Electricidad y Gas, S.L.U.	Repsol Customer Centric, S.L.U.	Spain	Sale of electricity	F.C.	100.00	97.79	435	1
Repsol Customer Centric, S.L.U	Repsol, S.A.	Spain	Portfolio company	F.C.	97.79	97.79	—	—

					December 2021			
					%		€ Million	
Name	**Parent company**	**Country**	**Corporate purpose**	**Method of conso.** (1)	**Control Int.** (2)	**Total Group Interest**	**Equity** (3)	**Share Capital** (3)
Repsol Directo, Lda.	Repsol Portuguesa, Lda	Portugal	Distribution and sale of oil products	F.C.	100.00	97.79	3	2
Repsol Directo, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Distribution and sale of oil products	F.C.	100.00	97.71	(4)	—
Repsol Downstream Internacional, S.A.	Repsol Customer Centric, S.L.U.(25)	Spain	Portfolio company	F.C.	100.00	97.79	580	—
Repsol Downstream México, S.A. de C.V	Repsol Downstream Internacional, S.A.	Mexico	Production and distribution of lubricants	F.C.	100.00	97.79	46	108
Repsol Energy Ventures, S.A.	Repsol Technology and Ventures, S.L.U	Spain	Development of new energy projects	F.C.	100.00	100.00	25	2
Repsol Gas Portugal, Unipessoal, Lda.	Repsol Butano, S.A.	Portugal	Sale of LGP	F.C.	100.00	97.79	131	3
Repsol Generación de Ciclos Combinados, S.L.U.(5)	Repsol S.A. (31)	Spain	Generation and sale of electricity	F.C.	100.00	100.00	9	8
Repsol Generación Eléctrica, S.A.	Repsol Renovables, S.L.U (20)	Spain	Generation of electricity	F.C.	100.00	100.00	889	468
Repsol Ibereólica Renovables Chile SpA	Repsol Chile, SpA	Chile	Wind power projects	E.M.	50.00	50.00	98	163
Repsol Lubricantes y Especialidades, S.A.	Repsol Customer Centric, S.L.U.(25)	Spain	Production and sale of lubricants	F.C.	100.00	97.79	816	5
Repsol Lubrificantes e Especialidades Brasil Participaçoes, Ltda.	Repsol Downstream Internacional, S.A.(24)	Brazil	Distribution and sale of oil products	F.C.	100.00	100.00	3	6
Repsol Mar de Cortés Estaciones de Servicio, S.A. de C.V.	Repsol Downstream Internacional, S.A.	Mexico	Production and distribution of lubricants	E.M.(J.V.)	50.00	48.89	1	—
Repsol Mar de Cortés, S.A. de C.V.	Repsol Downstream Internacional, S.A.	Mexico	Production and distribution of lubricants	E.M.(J.V.)	50.00	48.89	39	1
Repsol Marketing France, S.A.S.U.	Repsol Downstream Internacional, S.A.	France	Sale of oil products (11)	F.C.	100.00	97.79	—	—
Repsol Maroc, S.A.(6)	Repsol Butano, S.A.	Morocco	Sale of LGP	E.M.	99.96	99.96	—	1
Repsol Portuguesa, Lda.	Repsol Downstream Internacional, S.A.(27)	Portugal	Distribution and sale of oil products	F.C.	100.00	97.79	373	118
Repsol Renewables Development Company LLC (5)	Repsol Renewables North America, Inc	United States	Development of new energy projects	F.C.	100.00	100.00	—	—
Repsol Renewables Development Holdings Corp (5)	Repsol Renewables North America, Inc	United States	Development of new energy projects	F.C.	100.00	100.00	—	—
Repsol Renewables North America, Inc (5)	Repsol Renovables, S.L.U	United States	Development of new energy projects	F.C.	100.00	100.00	143	—
Repsol Renovables, S.L.U	Repsol, S.A.(28)	Spain	Development of new energy projects	F.C.	100.00	100.00	1,309	200
Repsol Services México, S.A. de C.V.	Repsol Downstream Internacional, S.A.	Mexico	Oil and gas exploration and production	F.C.	100.00	97.79	10	8
Repsol Servicios Renovables, S.A. (17)	Repsol Renovables, S.L.U (20)	Spain	Development of new energy projects	F.C.	100.00	100.00	6	2
Rocsole OY	Repsol Energy Ventures, S.A.	Finland	Technology development	E.M.	15.34	15.34	12	—
Servicios Logísticos de Combustibles de Aviación, S.L	Repsol Lubricantes y Especialidades, S.A.	Spain	Transport of aviation oil products	E.M.(J.V.)	50.00	49.98	9	4
Sociedade Abastecedora de Aeronaves, Ltda.	Repsol Portuguesa, Lda	Portugal	Sale of oil products	E.M.	25.00	25.00	—	—
Societat Catalana de Petrolis, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Distribution and sale of oil products	F.C.	94.94	92.77	1	6
Solar Antofagasta SpA	Repsol Ibereólica Renovables Chile SpA	Chile	Wind power project	E.M.	50.00	50.00	78	—
Solar Elena SpA	Repsol Ibereólica Renovables Chile SpA	Chile	Wind power project	E.M.	50.00	50.00	82	—
Solar Fotovoltaica Villena, S.L.	Repsol Renovables, S.L.U	Spain	Development of solar power projects	F.C.	100.00	100.00	1	—
Solgas Distribuidora de Gas, S.L.	Repsol Butano, S.A.	Spain	Sale of LGP	F.C.	100.00	97.79	1	1
Solred, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Management of payment methods at service stations	F.C.	100.00	97.60	55	26
Soluciones Tecnológicas de Energías Verdes, S.L.U	Repsol Renovables, S.L.U	Spain	Wind power project	F.C.	100.00	100.00	2	—
Sorbwater Technology A.S	Repsol Energy Ventures, S.A.	Norway	Water treatment technology management in E&P	E.M.	30.78	30.78	(1)	—
Terminales Canarios, S.L.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Storage and distribution of oil products	E.M.(J.V.)	50.00	48.80	22	20
Tramperase, S.L.	Repsol Renovables, S.L.U	Spain	Development of solar power projects	F.C.	100.00	100.00	19	—
United Oil Company Pte Ltd	Repsol Downstream Internacional, S.A.	Singapore	Production and distribution of lubricants	E.M.	40.00	39.12	90	9
Valdesolar Hive, S.L.	Repsol Renovables, S.L.U	Spain	Development of solar power projects	F.C.	100.00	100.00	43	—

					December 2021			
					%		€ Million	
Name	**Parent company**	**Country**	**Corporate purpose**	**Method of conso.** [1]	**Control Int.** [2]	**Total Group Interest**	**Equity** [3]	**Share Capital** [3]
WIB Advance Mobility, S.L.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	City car sharing rentals	E.M.(J.V.)	50.00	48.80	5	—
Windplus, S.A.	Repsol Renovables, S.L.U	Portugal	Technology development for wind generation	E.M.	13.63	13.63	—	2
CORPORATION								
Albatros, S.A.R.L.	Repsol, S.A.	Luxembourg	Portfolio company	F.C.	100.00	100.00	5,207	—
FEHI Holding, S.a.r.l.	Repsol Exploración, S.A.	Luxembourg	Portfolio company	F.C.	100.00	100.00	2,988	197
Gaviota RE, S.A. [7]	Albatros, S.À.R.L.	Luxembourg	Insurance and reinsurance	F.C.	100.00	100.00	455	1
Greenstone Assurance, Ltd.	Gaviota RE, S.A.	Bermuda	Insurance and reinsurance [11]	F.C.	100.00	100.00	2	32
Repsol Exploration Advanced Services, A.G.	Repsol Exploración, S.A.	Switzerland	Company providing human resource services	F.C.	100.00	100.00	1	—
Repsol Europe Finance S.A.R.L.[21]	Albatros, S.À.R.L.	Luxembourg	Portfolio and financial services company	F.C.	100.00	100.00	5,895	4,096
Repsol Finance Brasil S.A.R.L. [5]	Repsol Exploração Brasil Ltda.	Luxembourg	Portfolio and financial services company	F.C.	100.00	100.00	992	—
Repsol Gestión de Divisa, S.L.	Repsol, S.A.	Spain	Financial services	F.C.	100.00	100.00	457	—
Repsol International Finance, B.V.	Repsol, S.A.	Netherlands	Financial services and holding company	F.C.	100.00	100.00	2,908	301
Repsol Technology and Ventures, S.L.U	Repsol, S.A.	Spain	Shared services company	F.C.	100.00	100.00	26	—
Repsol Tesorería y Gestión Financiera, S.A.	Repsol, S.A.	Spain	Financial services	F.C.	100.00	100.00	177	—
SUN2HY, S.L.(5)	Repsol Energy Ventures, S.A.	Spain	Development and scale-up of artificial photosynthesis technology for hydrogen production	E.M.	50.00	50.00	1	—
Talisman International (Luxembourg), S.a.r.l.	Repsol Oil & Gas Canada, Inc.	Luxembourg	Portfolio company	F.C.	100.00	100.00	376	68
Talisman International Holdings, B.V.	Repsol Exploración, S.A.	Netherlands	Portfolio company	F.C.	100.00	100.00	250	646

(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 interest of the parent company immediately above the subsidiary.
(3) Corresponds to Equity and Share Capital data used in the Group´s consolidation process, prior to the adjustments related thereto. Companies whose functional currency is not the euro have been translated at the closing exchange rate. Amounts have been rounded (less than half a million euros has been rounded down to zero).
(4) Interests in joint operations (see Appendix Ic) which are structured through a company and this vehicle does not limit its rights to the assets or obligations for the liabilities related to the arrangement.
(5) Companies incorporated into the Repsol Group in 2021 (see Appendix Ib).
(6) Company in the process of liquidation.
(7) This company holds a non-controlling interest in Oil Insurance, Ltd (5.30%), domiciled in Bermudas.
(8) This company, legally incorporated in the Bahamas, is registered for tax purposes in the United Kingdom.
(9) This company, legally incorporated in the British Virgin Islands, is 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) This company, legally incorporated in Barbados, is registered for tax purposes in the Netherlands.
(13) The figures on Share Capital and Equity relate to 2020.
(14) The equity corresponds to the value of the consolidated subgroup.
(15) Equity value included in its parent company.
(16) This company, formerly known as Repsol Exploración Caribe, S.L., changed its company name in February 2021.
(17) This company, formerly known as Repsol Suroriente Ecuador, S.A., changed its company name in February 2021.
(18) This company, formerly known as Repsol Exploración 17, B.V., changed its company name in February 2021.
(19) This company, formerly known as Repsol Exploración Jamaica, S.A., changed its company name in February 2021.
(20) The parent of these companies is now Repsol Renovables, S.L.U.
(21) This company, formerly known as TE Holding, S.a.r.l., changed its company name in March 2021.
(22) This company, formerly known as Repsol USA Holdings Corporation, changed its company name in April 2021.
(23) The parent of this company is now Repsol Oil & Gas Holdings USA, Inc. The change took place in April 2021.
(24) The parent of this company is now Repsol Downstream Internacional, S.A. Inc. The change took place in April 2021.
(25) The parent of these companies is now Repsol Customer Centric, S.L.U.
(26) The parent of this company is now Repsol Industrial Transformation S.L.U. The change took place in July 2021.
(27) Repsol, S.A. transferred 70% to Repsol Downstream Internacional, S.A. (RDI), which then held 100% of the ownership interest. The change took place in September 2021.
(28) The parent of this company is now Repsol, S.A. The change took place in September 2021.
(29) The equity value is included together with Repsol Sinopec Brasil, S.A. (see Note 13).
(30) The parent of these companies is now FEHI Holding S.a.r.l. The change took place in November 2021.
(31) The parent of this company is now Repsol, S.A. The change took place in December 2021.
(32) The company moved its registered office to Bolivia in November 2021.
(33) This company, formerly known as Canaport LNG Limited Partnership, changed its name to Saint John LNG Limited Partnership in December 2021.

APPENDIX IB: Main changes in the scope of consolidation

For the year ended December 31, 2021

a) Business combinations, other acquisitions and acquisitions of interest in subsidiaries, joint ventures and/or associates:

					2021		
Name	**Country**	**Parent company**	**Item**	**Date**	**Method of consolidation (1)**	**% voting rights acquired**	**% total voting rights in entity following acquisition (2)**
Finboot Ltd.	United Kingdom	Repsol Energy Ventures, S.A.	Shareholding increase	February 2021	E.M.	0.28 %	8.69 %
Ekiola Promoción, SL	Spain	Repsol Customer Centric, S.L.U	Acquisition	March 2021	E.M.	49.00 %	49.00 %
Ekiola Construcción, M&O, S.L.	Spain	Repsol Customer Centric, S.L.U	Acquisition	March 2021	E.M.	49.00 %	49.00 %
Ekiola Energía Comercializadora, S.L.	Spain	Repsol Customer Centric, S.L.U	Acquisition	March 2021	E.M.	51.00 %	51.00 %
Gaolania Servicios, S.L.	Spain	Repsol Customer Centric, S.L.U	Acquisition	March 2021	E.M.	70.00 %	70.00 %
SUN2HY , S.L.	Spain	Repsol Energy Ventures S.A.	Acquisition	April 2021	E.M.	50.00 %	50.00 %
Rocsole OY	Finland	Repsol Energy Ventures S.A.	Shareholding increase	May 2021	E.M.	2.70 %	16.70 %
Repsol Renewables North America, Inc	United States	Repsol Renovables, S.L.U	Incorporation	May 2021	F.C.	100.00 %	100.00 %
Repsol Finance Brasil B.V.	Brazil	Repsol Exploração Brasil Ltda.	Incorporation	June 2021	F.C.	100.00 %	100.00 %
Hecate Energy Group, LLC	United States	Repsol Renewables North America, Inc	Acquisition	June 2021	E.M.	40.00 %	40.00 %
Repsol Generación de Ciclos Combinados, S.L.U.	Spain	Repsol Renovables, S.L.U	Incorporation	July 2021	F.C.	100.00 %	100.00 %
Ecoplanta Molecular Recycling Solutions, SL	Spain	Repsol Industrial Transformation, S.L.	Acquisition	July 2021	E.M.	39.00 %	39,0%
Belmont Technology Inc., S.L.	Spain	Repsol Energy Ventures, S.A.	Shareholding increase	July 2021	E.M.	3.03 %	12,90%
Alba Emission Free Energy S.L	Spain	Petróleos del Norte, S.A.	Acquisition	September 2021	F.C.	100.00 %	100.00 %
Repsol Finance Brasil S.A.R.L.	Luxembo urg	Repsol Exploração Brasil Ltda.	Incorporation	September 2021	F.C.	100.00 %	100.00 %
Ezzing Renewable Energies S.L.	Spain	Repsol Energy Ventures S.A.	Shareholding increase	September 2021	E.M.	2.10 %	24.30 %
Refinería La Pampilla, S.A.A.	Perú	Repsol Perú, B.V.	Shareholding increase	October 2021	F.C.	6.80 %	99.20 %
Ampere Power Energy, S.L.	Spain	Repsol Energy Ventures, S.A.	Shareholding increase	October 2021	E.M.	0.01 %	6.64 %
Saint John LNG, Limited Partnership	Canada	Repsol Oil & Gas Canada, Inc.	Shareholding increase	November 2021	F.C.	25,00%	100,00%
Begas Motor, S.L.	Spain	Repsol Energy Ventures, S.A.	Shareholding increase	December 2021	E.M.	0,02%	18,91%
Repsol Renewables Development Company LLC	United States	Repsol Renewables North America, Inc	Acquisition	December 2021	F.C.	100,00%	100,00%
Repsol Renewables Development Holdings Corp	United States	Repsol Renewables North America, Inc	Acquisition	December 2021	F.C.	100,00%	100,00%
Jicarilla Solar 2 LLC	United States	Repsol Renewables Development Holdings Corp	Acquisition	December 2021	F.C.	100,00%	100,00%
Jicarilla Solar 2 Bond Purchaser LLC	United States	Jicarilla Solar 2 LLC	Acquisition	December 2021	F.C.	100,00%	100,00%
Gestión Activa de Pedidos S.L.	Spain	Repsol Comercial de Productos Petrolíferos, S.A.	Incorporation	December 2021	F.C.	100,00%	100,00%

(1) Method of consolidation:
F.C.: Full consolidation
E.M.: 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:

					2021		
Name	**Country**	**Parent company**	**Item**	**Date**	**Method of consolidation (1)**	**% voting rights disposed or derecognized**	**% total voting rights in entity following disposal**
Ampere Power Energy, S.L.	Spain	Repsol Energy Ventures, S.A.	Shareholding reduction	January 2021	E.M.	0.55 %	6.63 %
Dubai Marine Areas, Ltd.	United Kingdom	Repsol Exploración S.A.	Liquidation	April 2021	E.M.	50.00 %	0.00 %
JSC Eurotek - Yugra	Russia	Repsol Exploración Karabashsky, B.V.	Shareholding reduction	April 2021	E.M.	0.90 %	67.40 %
AR Oil & Gaz, B.V.	Netherlands	Repsol Exploración S.A.	Disposal	May 2021	E.M. (J.V)	49.00 %	0.00 %
MC Alrep, Llc.	Russia	AR Oil & Gaz, B.V.	Disposal	May 2021	E.M. (J.V)	49.00 %	0.00 %
Saneco	Russia	AR Oil & Gaz, B.V.	Disposal	May 2021	E.M. (J.V)	49.00 %	0.00 %
TNO (Tafnefteotdacha)	Russia	AR Oil & Gaz, B.V.	Disposal	May 2021	E.M. (J.V)	48.79 %	0.00 %
Finboot Ltd.	United Kingdom	Repsol Energy Ventures S.A.	Shareholding reduction	May 2021	E.M.	0.15 %	8.54 %
Nudo Manzanares 220 KV, A.I.E.	Spain	Tramperase, S.L.	Shareholding reduction	May 2021	E.M.	9.66 %	27.60 %
Dynasol Altamira, S.A. de C.V.	Mexico	Dynasol Elastómeros, S.A. de C.V.	Absorption	June 2021	E.M.	49.99 %	0.00 %
Oleum Insurance Company Ltd.	Barbados	Repsol Oil & Gas Canada, Inc.	Disposal	September 2021	F.C.	100.00 %	— %
Repsol Electricidad y Gas, S.A.	Spain	Repsol S.A.	Absorption	September 2021	F.C.	100.00 %	— %
Repsol Italia, SpA	Italy	Repsol S.A.	Disposal	September 2021	F.C.	100.00 %	0.00 %
Repsol E&P Eurasia, LLC	Russia	Repsol Exploración, S.A.	Liquidation	October 2021	F.C.	100.00 %	0.00 %
Repsol Baicoi, S.R.L.	Romania	Repsol Exploración, S.A.	Liquidation	November 2021	F.C.	100.00 %	0.00 %
Repsol Targoviste, S.R.L.	Romania	Repsol Exploración, S.A.	Liquidation	November 2021	F.C.	100.00 %	0.00 %
Repsol Libreville, S.A. avec A.G.	Gabon	Repsol Exploración, S.A.	Liquidation	November 2021	F.C.	100.00 %	0.00 %
Alectoris Energía Sostenible 1, S.L.	Spain	Repsol Renovables, S.L.U	Shareholding reduction	November 2021	F.C.	49.00 %	51.00 %
Alectoris Energía Sostenible 3, S.L.	Spain	Repsol Renovables, S.L.U	Shareholding reduction	November 2021	F.C.	49.00 %	51.00 %
Desarrollo Eólico Las Majas VII, S.L.U	Spain	Repsol Renovables, S.L.U	Shareholding reduction	November 2021	F.C.	49.00 %	51.00 %
Fuerzas Energéticas del Sur de Europa V, S.L.U	Spain	Repsol Renovables, S.L.U	Shareholding reduction	November 2021	F.C.	49.00 %	51.00 %
Fuerzas Energéticas del Sur de Europa VI, S.L.U	Spain	Repsol Renovables, S.L.U	Shareholding reduction	November 2021	F.C.	49.00 %	51.00 %
Fuerzas Energéticas del Sur de Europa XI, S.L.U	Spain	Repsol Renovables, S.L.U	Shareholding reduction	November 2021	F.C.	49.00 %	51.00 %
Fuerzas Energéticas del Sur de Europa XII, S.L.U	Spain	Repsol Renovables, S.L.U	Shareholding reduction	November 2021	F.C.	49.00 %	51.00 %
Generación Eólica El Vedado, S.L.	Spain	Repsol Renovables, S.L.U	Shareholding reduction	November 2021	F.C.	49.00 %	51.00 %
Agrícola Comercial del Valle de Santo Domingo, S.A.	Mexico	Repsol Downstream Internacional, S.A.	Disposal	November 2021	E.M.	20,00%	20,00%
Repsol Pitesti, S.R.L.	Romania	Repsol Exploración, S.A.	Liquidation	December 2021	F.C.	100.00 %	0.00 %
Talisman (Vietnam 15-2/01), Ltd.	Canada	Repsol Exploración, S.A.	Disposal	December 2021	F.C.	100.00 %	0.00 %
Repsol Oil & Gas Sea Pte., Ltd.	Singapore	Repsol Exploración, S.A.	Disposal	December 2021	F.C.	100.00 %	0.00 %
Repsol Targu Jiu, S.R.L.	Romania	Repsol Exploración, S.A.	Liquidation	December 2021	F.C.	100.00 %	0.00 %
Rocsole OY	Finland	Repsol Energy Ventures S.A.	Shareholding reduction	December 2021	E.M.	1,33%	15,34%

(1) Method of consolidation:
F.C.: Full consolidation
E.M.: Equity method. Joint Ventures are identified as "JV".

For the year ended December 31, 2020

a) Business combinations, other acquisitions and acquisitions of interest in subsidiaries, joint ventures and/or associates:

					2020		
Name	**Country**	**Parent company**	**Item**	**Date**	**Method of consolidation** (1)	**% voting rights acquired**	**% total voting rights in entity following acquisition** (2)
LGA – Logística Global de Aviação, LDA.	Portugal	Repsol Portuguesa, S.A	Acquisition	January 2020	E.M.	20.00 %	20.00 %
Aragonesa de Infraestructuras Energéticas Renovables, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Boalar Energías, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Desarrollos Eólicos El Saladar, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Desarrollo Eólico Las Majas VIII, S.L.	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Desarrollo Eólico Las Majas XIV, S.L.	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Desarrollo Eólico Las Majas XV, S.L.	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Desarrollo Eólico Las Majas XXVII, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Desarrollo Eólico Las Majas XXXI, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Energías Renovables de Cilene, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Energías Renovables de Gladiateur 18, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Energías Renovables de Hidra, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Energías Renovables de Kore, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Fuerzas Energéticas del Sur de Europa XIII, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Fuerzas Energéticas del Sur de Europa XIV, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Fuerzas Energéticas del Sur de Europa XVIII, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Fuerzas Energéticas del Sur de Europa XX, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Generación y Suministro de Energía, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Hispánica de Desarrollos Energéticos Sostenibles, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Natural Power Development, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Soluciones Tecnológicas de Energías Verdes, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	February 2020	F.C.	100.00 %	100.00 %
Finboot Ltd.	United Kingdom	Repsol Energy Ventures, S.A.	Shareholding increase	March 2020	E.M.	0.07 %	8.41 %
Klikin Deals Spain, S.L.	Spain	Repsol Comercial de Productos Petrolíferos, S.A.	Shareholding increase	April 2020	E.M.	0.73 %	70.73 %
Energia Distribuida del Norte, S.A.	Spain	Petróleos del Norte, S.A.	Incorporation	April 2020	F.C.	100.00 %	100.00 %
Rocsole OY	Finland	Repsol Energy Ventures S.A.	Shareholding increase	May 2020	E.M.	1.43 %	13.93 %
Energías Renovables de Dione, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	June 2020	F.C.	100.00 %	100.00 %
Energías Renovables de Lisitea, S.L.U	Spain	Repsol Renovables, S.L.U	Acquisition	June 2020	F.C.	100.00 %	100.00 %
Energías Renovables de Polux, S.L.U,	Spain	Repsol Renovables, S.L.U	Acquisition	June 2020	F.C.	100.00 %	100.00 %
Repsol Ibereólica Renovables Chile SpA	Chile	Repsol Chile, S.A.	Acquisition	October 2020	E.M.	50.00 %	50.00 %
Eólica del Tatal SpA	Chile	Repsol Chile, S.A.	Acquisition	October 2020	E.M.	15.00 %	15.00 %
Klikin Deals Spain, S.L.	Spain	Repsol Comercial de Productos Petrolíferos, S.A.	Shareholding increase	December 2020	F.C.	29.27 %	100.00 %
Perseo Biotechnology S.L.U.	Spain	Repsol Energy Ventures S.A.	Acquisition	December 2020	E.M.	24.99 %	24.99 %

(1) Method of consolidation:
F.C.: Full consolidation
E.M.: 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:

					2020		
Name	**Country**	**Parent company**	**Item**	**Date**	**Method of consolidation (1)**	**% voting rights disposed or derecognized**	**% total voting rights in entity following disposal**
Repsol Exploración East Bula, B.V.	Netherlands	Repsol Exploración S.A.	Liquidation	January 2020	F.C.	100.00 %	0.00 %
Repsol Exploración Seram, B.V.	Netherlands	Repsol Exploración, S.A.	Liquidation	January 2020	F.C.	100.00 %	0.00 %
Foreland Oil, Ltd.	British Virgin Islands	Rift Oil, Ltd.	Disposal	January 2020	F.C.	100.00 %	0.00 %
Repsol Oil & Gas Papua Pty, Ltd.	Australia	Repsol Oil & Gas Niugini Pty Ltd.	Disposal	January 2020	F.C.	100.00 %	0.00 %
Repsol Oil & Gas Niugini Pty, Ltd.	Australia	Talisman International Holdings, B.V.	Disposal	January 2020	F.C.	100.00 %	0.00 %
Repsol Oil & Gas Niugini Kimu Alpha Pty, Ltd.	Australia	Repsol Oil & Gas Niugini Ltd.	Disposal	January 2020	F.C.	100.00 %	0.00 %
Repsol Oil & Gas Niugini Kimu Beta, Ltd.	Papua New Guinea	Repsol Oil & Gas Niugini Ltd.	Disposal	January 2020	F.C.	100.00 %	— %
Repsol Oil & Gas Niugini, Ltd.	Papua New Guinea	Repsol Oil & Gas Papua Pty, Ltd.	Disposal	January 2020	F.C.	100.00 %	0.00 %
Rift Oil, Ltd.	United Kingdom	Talisman International Holdings, B.V.	Disposal	January 2020	F.C.	100.00 %	0.00 %
CSJC Eurotek - Yugra	Russia	Repsol Exploración Karabashsky, B.V.	Shareholding reduction	February 2020	E.M.	0.58 %	70.20 %
CSJC Eurotek - Yugra	Russia	Repsol Exploración Karabashsky, B.V.	Shareholding reduction	April 2020	E.M.	1.00 %	69.20 %
Repsol Louisiana Corporation	United States	Repsol USA Holdings Corporation	Liquidation	April 2020	F.C.	100.00 %	0.00 %
Repsol Exploration Australia Pty, Ltd.	Australia	Repsol Exploración S.A.	Liquidation	April 2020	F.C.	100.00 %	0.00 %
Nanogap Sub n-m Powder S.A.	Spain	Repsol Energy Ventures S.A.	Shareholding reduction	May 2020	E.M.	0.10 %	12,52%
Principle Power, Inc.	United States	Repsol Energy Ventures S.A.	Shareholding reduction	May 2020	E.M.	4.49 %	16.08 %
Repsol Exploración Cendrawasih III, B.V.	Netherlands	Repsol Exploración S.A.	Liquidation	May 2020	F.C.	100.00 %	— %
Talisman (Block K 9) B.V.	Netherlands	Talisman Global Holdings, B.V.	Liquidation	June 2020	F.C.	100.00 %	— %
Begas Motor, S.L.	Spain	Repsol Energy Ventures, S.A.	Shareholding reduction	June 2020	E.M.	4.23 %	23.70 %
Gas Natural West África S.L.	Spain	Repsol LNG Holding, S.A.	Liquidation	July 2020	E.M.	60.00 %	0.00 %
Repsol Angola 35, B.V.	Netherlands	Repsol Exploración S.A.	Liquidation	July 2020	F.C.	100.00 %	0.00 %
Begas Motor, S.L.	Spain	Repsol Energy Ventures, S.A.	Shareholding reduction	July 2020	E.M.	4.81 %	18.89 %
Principle Power, Inc.	United States	Repsol Energy Ventures S.A.	Shareholding reduction	September 2020	E.M.	— %	0.159
Windplus, S.A.	Portugal	Repsol Renovables, S.L.U	Shareholding reduction	October 2020	E.M.	6 %	0.1363
Repsol Angola 22, B.V.	Netherlands	Repsol Exploración S.A.	Liquidation	October 2020	F.C.	100 %	0
Repsol Angola 37, B.V.	Netherlands	Repsol Exploración S.A.	Liquidation	October 2020	F.C.	100 %	0
Repsol Aruba, B.V.	Netherlands	Repsol Exploración S.A.	Liquidation	December 2020	F.C.	100 %	0
Repsol Exploración Cendrawasih I, B.V.	Netherlands	Repsol Exploración S.A.	Liquidation	December 2020	F.C.	100 %	0
Repsol Corridor B.V.	Netherlands	Repsol Exploración S.A.	Liquidation	December 2020	F.C.	100 %	0
Talisman Banyumas B.V.	Netherlands	Repsol Exploración, S.A.	Liquidation	December 2020	F.C.	100 %	0
Repsol Exploración Cendrawasih IV, B.V.	Netherlands	Repsol Exploración, S.A.	Liquidation	December 2020	F.C.	100 %	0
Repsol Bulgaria, B.V.	Netherlands	Repsol Exploración, S.A.	Liquidation	December 2020	F.C.	100 %	0
Talisman (Algeria), B.V.	Netherlands	Repsol Exploración, S.A.	Liquidation	December 2020	F.C.	100 %	0
Principle Power (Europe), Ltd.	United Kingdom	Principle Power, Inc.	Disposal	December 2020	E.M.	21 %	0
Principle Power Portugal Unipessoal, Lda.	Portugal	Principle Power, Inc.	Disposal	December 2020	E.M.	21 %	0
Principle Power, Inc.	United States	Repsol Energy Ventures S.A.	Disposal	December 2020	E.M.	16 %	0
CSJC Eurotek - Yugra	Russia	Repsol Exploración Karabashsky, B.V.	Shareholding reduction	December 2020	E.M.	1 %	0.692
Repsol Exploration Namibia Pty, Ltd.	Namibia	Repsol Exploración S.A.	Liquidation	December 2020	F.C.	100 %	0

(1) Method of consolidation:
F.C.: Full consolidation
E.M.: Equity method. Joint Ventures are identified as "JV".

APPENDIX IC: Joint operations of the Repsol group at December 31, 2021

The Repsol Group's main Joint Operations (see Note 3.4) are shown below (including those in which the Group is involved through a joint arrangement)[40]:

Name	Interest (1)	Operator	Activity
Argelia			
El Merk (EMK) Field Unit Agt	9.10%	Groupement Berkine	Development/Production
Greater MLN	35.00%	Pertamina	Development/Production
Menzel Ledjmet Sud-Est /405a	35.00%	Pertamina	Development/Production
Ourhoud Field / 404,405,406a	1.92%	Organisation Ourhoud	Development/Production
Reggane Nord	29.25%	Groupement Reggane	Development/Production
Australia			
JPDA 06-105 PSC	25.00%	ENI	Development/Production
Bolivia			
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
Carohuaicho 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
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-Huacaya	37.50%	Repsol	Development/Production
Monteagudo	39.67%	Repsol	Development/Production
Palacios	48.33%	YPF B Andina, S.A	Development/Production
Patuju	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
San Antonio - Sabalo	24.17%	Petrobras	Development/Production
San Alberto	24.17%	Petrobras	Development/Production
Sirari	48.33%	YPF B Andina, S.A	Development/Production
Vibora	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%	Equinor	Development/Production
BM-S-50 (S-M-623) Sagitario	12.00%	Petrobras	Exploration
BM-S-9 Concesion 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
C-M-825	60.00%	Repsol	Exploration
C-M-845	40.00%	Chevron	Exploration
S-M-764	40.00%	Chevron	Exploration
S-M-766	40.00%	Chevron	Exploration
Canada (2)			
Chauvin Alberta	62.44%	Repsol	Development/Production
Chauvin Saskatchewan	90.36%	Repsol	Development/Production
Edson	78.04%	Repsol	Development/Production
Groundbirch No Montney Rights	35.19%	Others	Development/Production
Misc. Alberta	56.05%	Repsol	Exploration

[40] 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	Interest [1]	Operator	Activity
Misc. British Columbia	75.00%	Repsol	Exploration
Misc. Saskatchewan	87.02%	Repsol	Exploration
Northwest Territories	4.24%	Others	Exploration
Nunavut	1.91%	Others	Exploration
Wild River Region	54.79%	Repsol	Development/Production
Yukon	1.05%	Others	Exploration
Colombia			
CPO-9 Akacias Production Area	45.00%	Ecopetrol	Development/Production
Caguan 5	50.00%	Frontera Energy	Exploration
Caguan 6	40.00%	Frontera Energy	Exploration
Catleya	50.00%	Repsol	Exploration
Chipirón	8.75%	SierraCol	Development/Production
COL-4	50.01%	Repsol	Exploration
CPE-8	50.00%	Repsol	Exploration
CPO-9 - Exploration Area	45.00%	Ecopetrol	Exploration/Production
Cravo Norte	5.63%	SierraCol	Development/Production
Mundo Nuevo	30.00%	Equion	Exploration
Cosecha	17.50%	SierraCol	Development/Production
Rondón	6.25%	SierraCol	Development/Production
Ecuador			
Block 16	35.00%	Repsol	Service Contract
Tivacuno	35.00%	Repsol	Service Contract
Spain			
Albatros	82.00%	Repsol	Development/Production
Angula	53.85%	Repsol	Development/Production
Boquerón	61.95%	Repsol	Development/Production
Casablanca - Montanazo Unificado	68.67%	Repsol	Development/Production
Casablanca No Unificado	67.35%	Repsol	Development/Production
Montanazo D	72.44%	Repsol	Development/Production
Rodaballo	65.42%	Repsol	Development/Production
Barracuda	60.21%	Repsol	Development/Production
United States [2]			
Alaska			
North Slope Horseshoe project (49 blocks)	49.00%	Oil Search	Exploration
North Slope Pikka	49.00%	Oil Search	Exploration
Placer Unit	49.00%	Oil Search	Exploration
North Slope Exploration 37,24% (40 blocks)	37.24%	Oil Search	Exploration
North Slope Exploration 49% (82 blocks)	49.00%	Oil Search	Exploration
Gulf of Mexico			
Alaminos Canyon Blacktip project (4 blocks)	8.50%	Shell	Exploration
Alaminos Canyon Blacktip North project (3 blocks)	10.51%	Shell	Exploration
Alaminos Canyon Bobcat project (2 blocks)	8.50%	Shell	Exploration
Alaminos Canyon Lucille project (3 blocks)	8.50%	Shell	Exploration
Garden Banks Blacktail project (4 blocks)	50.00%	Repsol	Exploration
Green Canyon - Shenzi (6 blocks)	28.00%	BHP	Development/Production
Keathley Canyon Leon (4 blocks)	50.00%	Llog	Exploration
Keathley Canyon Buckskin (7 blocks)	22.50%	Llog	Development/Production
Keathley Canyon Moccasin North	50.00%	Llog	Exploration
Keathley Canyon Moccasin	30.00%	Llog	Exploration
Keathley Canyon Noel (2 blocks)	50.00%	Llog	Exploration
Keathley Canyon Buckshot (2 blocks)	50.00%	Llog	Exploration
Walker Ridge Monument project (11 blocks)	20.00%	Equinor	Exploration

Name	Interest [1]	Operator	Activity
Eagle Ford			
Eagle Ford Texas	81.60%	Repsol	Development/Production
Marcellus			
Marcellus New York (*) Exploration Unconventional	99.71%	Repsol	Exploration
Marcellus New York	86.10%	Repsol	Development/Production
Marcellus Pennsylvania	82.84%	Repsol	Development/Production
Greece			
Ionian Block	50.00%	Repsol	Exploration
Guyana			
Kanuku	37.50%	Repsol	Exploration
Indonesia			
Andaman III	51.00%	Repsol	Exploration
Corridor PSC	36.00%	Conoco	Development/Production
Aru	60.00%	Repsol	Exploration
South Sakakemang	80.00%	Repsol	Exploration
Sakakemang	45.00%	Repsol	Exploration
South East Jambi	40.00%	Repsol	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			
PM-03 CAA	35.00%	Repsol	Development/Production
PM-305	60.00%	Repsol	Development/Production
PM-314	60.00%	Repsol	Development/Production
2012 Kinabalu Oil Fields	60.00%	Repsol	Development/Production
Mexico			
Bloque 10	40.00%	Repsol	Exploration
Bloque 11	60.00%	Repsol	Exploration
Bloque 14	50.00%	Repsol	Exploration
Bloque 29	30.00%	Repsol	Exploration
Norway			
PL 019 G	61.00%	Aker BP	Development/Production
PL 019B	61.00%	Repsol	Development/Production
PL 025	15.00%	Equinor	Development/Production
PL 038C	70.00%	Repsol	Development/Production
PL 052	27.00%	Equinor	Development/Production
PL 092	7.65%	Equinor	Development/Production
PL 120	11.00%	Equinor	Development/Production
PL 120 CS	11.00%	Equinor	Development/Production
PL 121	7.65%	Equinor	Development/Production
PL 187	15.00%	Equinor	Exploration
PL 316	55.00%	Repsol	Development/Production
PL 316B	55.00%	Repsol	Development/Production
PL 976	30.00%	Lundin	Exploration
Peru			
Bloque 56	10.00%	Pluspetrol	Development/Production
Bloque 57	53.84%	Repsol	Development/Production
Bloque 88	10.00%	Pluspetrol	Development/Production
Iraq			
Topkhana	80.00%	Repsol	Development/Production

Name	Interest (1)	Operator	Activity
United Kingdom			
P534 (98/06a-Wareham)	2.55%	Perenco	Development/Production
P534 (98/06a-Wych Farm UOA)	2.53%	Perenco	Development/Production
PL089 (SZ/8, 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%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P020 (22/18n)	30.08%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P073 (30/18_E)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P111 (30/3a Blane Field)	30.75%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P111 (30/3a Upper)	15.55%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P116 (30/16n)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P185 (30/11b inc. Fulmar field)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P219 (16/13a)	19.47%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P220 (15/17n-F2- Piper+ rest of Block)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P237 (15/16a)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P240 (16/22a- non Arundel Area)	18.86%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P241 (21/1c)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P241/P244 (21/1c/21/2a- Cretaceus Area West)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P244 (21/2a)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P249 (14/19n Residual)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P249 (14/19n_F1- Claymore)	47.16%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P249 (14/19n_F2- Scapa/Claymore)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P250 (14/19s- F1)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P250 (14/19s- Rest of Block)_Develop	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P256 (30/16s)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P263 (14/18a)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P266 (30/17b)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P291 (22/17s)	30.08%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P291 (22/22a)	30.08%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P291 (22/23a)	30.08%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P292 (22/18a)	30.08%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P295 (30/16a)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P295 (30/16b)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P295 (30/16c)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P295 (30/16t Auk field area)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P297 (13/28a Ross)	35.28%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P307 (13/29a Ross)	35.28%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P324 (14/20b)	25.50%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P324 (14/20b-Claymore Extension)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P324 (14/20b-f1+f2)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P324 (15/16b)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P324 (15/23a)_Developm.	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P344 (16/21b Rest of Block)	30.60%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P344 (16/21c*- Rest of block excluding Stirling)	30.60%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P729 (13/29b - Blake Ext Non Skate_Devel.)	40.80%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P729 (13/29b - Ross Unitised Field UUOA interests)	35.28%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P810 (13/24b Blake Area)	34.53%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P810 (13/24b North)	35.28%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P973 (13/28c)	35.28%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P255 (30/14 Flyndre Area)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P073 (30/18_W)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P079 (30/13a - Contract Area C East)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P101 (13/24a Blake)	34.53%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P185 (30/11b)	30.60%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P185 (30/12b inc. Halley field)	30.60%	Repsol Sinopec Resources UK, Ltd.	Development/Production

Name	Interest [1]	Operator	Activity
P250 (14/19a)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P297 (13/28a)	33.02%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P307 (13/29a)	36.55%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P324 (15/23a)	51.00%	Repsol Sinopec Resources UK, Ltd.	Exploration
P593 (20/05c)	51.00%	Repsol Sinopec Resources UK, Ltd.	Development/Production
P983 (13/23b)	25.50%	Repsol Sinopec Resources UK, Ltd.	Exploration
P225 (16/27a- Contract Area 3)	13.50%	JX Nippon	Exploration
P225 (16/27a- Contract Area 3 Andrew Field Area)	5.03%	BP	Development/Production
Russia			
Karabashskiy 1	50.00%	Eurotek Yugra	Exploration
Karabashskiy 2	50.00%	Eurotek Yugra	Exploration
Karabashskiy 3	50.00%	Eurotek Yugra	Exploration
Karabashskiy 9	50.00%	Eurotek Yugra	Exploration
Kileyskiy	50.00%	Eurotek Yugra	Exploration
Sverdlovsky 4	50.00%	Eurotek Yugra	Exploration
Karabashskiy 10	50.01%	ASB Geo	Exploration
Trinidad & Tobago			
5B Manakin	30.00%	BP	Development/Production
East Block	30.00%	BP	Development/Production
S.E.C.C. Ibis	10.80%	EOG	Development/Production
West Block	30.00%	BP	Development/Production
Venezuela			
Barua Motatán	40.00%	Petroquiriquire	Development/Production
Carabobo	11.00%	Petrocarabobo	Development/Production
Cardón IV Oeste	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%	Ypergas	Development/Production
Yucal Placer Sur	15.00%	Ypergas	Development/Production
Vietnam			
Bloque 133 & 134	49.00%	Repsol	Exploration
Bloque 46-CN	70.00%	Repsol	Development/Production
DOWNSTREAM			
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 interest in the joint arrangement.
[2] Mining domain rights in Canada and the United States are articulated over a large number of Joint Operating Agreements (JOAs). They have been grouped by geographical areas and Repsol's interest.

APPENDIX II: Other detailed information

Fair value of financial instruments

The valuation techniques used for the derivative financial instruments classified in levels 2 and 3 of the hierarchy are based, in accordance with accounting standards, on an income approach, which consists of discounting known or estimated future flows using discount curves constructed on the basis of reference market interest rates (in the case of derivatives, they are estimated using implied market forward curves), including adjustments for credit risk based on the life of the instruments and other adjustments. In the case of options, price-fixing models based on Black & Scholes formulas are used.

The main variables for the valuation of financial instruments vary depending on the type of instrument, but are mainly the following: exchange rates (spot and forward), interest rate curves, counterparty risk curves, commodity prices (spot and forward) and equity prices, as well as the volatility of all the aforementioned factors. In all cases, market data are obtained from recognized information agencies or correspond to quotations from official bodies.

Financial assets recognized at fair value are classified, in accordance with their calculation methodology, into three levels:
Level 1: Valuations based on a quoted price in an active market for an identical instrument and relate to derivatives held for trading.
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 such as financial investments or electricity PPAs.

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

	Level 1		Level 2		Level 3		Total	
€ Million	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
At FV through profit or loss	647	111	301	404	7	—	955	515
At FV through other comprehensive income	96	2	132	80	66	—	294	82
TOTAL	**743**	**113**	**433**	**484**	**73**	**—**	**1,249**	**597**

The breakdown of the reconciliation of opening balances to closing balances for those financial liabilities classified under level 3 is as follows:

€ Million	**2021**
Opening balance	—
Income and expenses recognized in profit and loss	(7)
Income and expenses recognized in equity	(66)
Closing balance	**(73)**

NOTE: None of the possible foreseeable scenarios for the assumptions used would result in significant changes in the fair value of the instruments classified in level 3 of the fair value hierarchy.

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

€ Million	Level 1		Level 2		Level 3		Total	
	2021	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
At FV through profit or loss	567	129	496	263	56	37	1,119	429
At FV through other comprehensive income	294	19	2	107	134	86	430	212
TOTAL	**861**	**148**	**498**	**370**	**190**	**123**	**1,549**	**641**

The breakdown of the reconciliation of opening balances to closing balances for those financial assets classified under level 3 is as follows:

€ Million	**2021**
Opening balance	123
Income and expenses recognized in profit and loss	(12)
Income and expenses recognized in equity	48
Reclassifications and other	31
Closing balance	**190**

NOTE: None of the possible foreseeable scenarios for the assumptions used would result in significant changes in the fair value of the instruments classified in level 3 of the fair value hierarchy.

No financial instruments were transferred between hierarchy levels in 2021 or 2020.

Interest rate reform

Repsol is reviewing the arranged contracts according to the schedule set for the reform, mainly affecting loans and credit facilities.

As to the hedging relationships tied to the interest rates affected by the reform, according to the "*Interest rate benchmark reform - Amendments to IFRS 9, IFRS 7 and IAS 39 (Phase 1)*", we believe that the cash flows of the hedging instrument and the hedged item will not be altered as a result of the reform. With regard to the "*Interest rate benchmark reform - Amendments to IFRS 9, IFRS 7, IFRS 4 and IFRS 16 (Phase 2)*", any contractual change directly related to the change in the benchmark interest rate of a financial asset or liability is recognized as if it were a change in the market interest rates of a floating rate financial instrument, with no significant effect on the Group's financial statements to date.

In addition, the Group is monitoring regulatory and market developments for an orderly transition. In this regard, new contracts include a reference to risk-free rates, aside from exceptional cases when the rates allow it (USD LIBOR), and in any case specific clauses are included governing permanent cessation events. With regard to previously existing contracts that are still in force after December 31, 2021, the transition to these new rates is being carried out.

This reform has not led a change in the Group's interest rate financial risk management policy.

The main financial assets and liabilities tied to LIBOR rates as of December 31, 2021, in which the rate is a main element of the contract, are itemized below:

€ Million	12/31/2021 Amount/Notional
Financial assets (excluding derivatives) (1):	
USD LIBOR	1,144
Financial liabilities (excluding derivatives) (2):	
USD LIBOR	814
Derivatives (3):	
USD LIBOR	474

NOTE: Does not include assets and liabilities of a commercial nature.
(1) Includes mainly current accounts, deposits and loans, net of impairment, tied to financing in Venezuela (see Note 8).
(2) Includes mainly loans
(3) Corresponds to the interest rate swaps related to financing the investment in the Saint John LNG project (Canada) (see Note 9.1).

APPENDIX III: Segment reporting and reconciliation with EU-IFRS financial statements[41]

Income statement figures

The reconciliation between adjusted net income and EU-IFRS net income at December 31, 2021 and 2020, is as follows:

	€ Million											
	Adjusted net income		ADJUSTMENTS: Reclassifications of joint ventures		Special items		Inventory effect		Total adjustments		Net income under EU-IFRS	
Results	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
Operating income	4,372 (1)	1,135	(541) (1)	682	(1,173)	(3,017)	1,099	(1,354)	(615)	(3,689)	3,757	(2,554)
Financial result	(315)	(238)	137	60	449	37	—	—	586	97	271	(141)
Net income from entities accounted for using the equity method - net of taxes	(3)	6	314	(618)	(10)	3	—	—	304	(615)	301	(609)
Income before tax	**4,054**	**903**	**(90)**	**124**	**(734)**	**(2,977)**	**1,099**	**(1,354)**	**275**	**(4,207)**	**4,329**	**(3,304)**
Income tax	(1,590)	(299)	90	(124)	(22)	63	(279)	344	(211)	283	(1,801)	(16)
Net income	**2,464**	**604**	**—**	**—**	**(756)**	**(2,914)**	**820**	**(1,010)**	**64**	**(3,924)**	**2,528**	**(3,320)**
Profit attributable to non-controlling interests	(10)	(4)	—	—	4	3	(23)	32	(19)	35	(29)	31
Net income attributable to the parent	**2,454**	**600**	**—**	**—**	**(752)**	**(2,911)**	**797**	**(978)**	**45**	**(3,889)**	**2,499**	**(3,289)**

(1) Profit from continuing operations at current cost of supply (CCS).
(2) The inventory effect represents an adjustment to "*Procurement*" and "*Changes in inventory of finished goods*" on the IFRS-EU income statement.

Revenue from ordinary activities by segments between customer and inter-segment revenue is displayed below:

	€ Million											
	Income from ordinary activities (3)		Net income from operations		Provisions for amortization of fixed assets (2)		Impairment income / (expenses)		Net income from entities valued using the equity method		Income tax	
Segments	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
Exploration and Production	6,809	4,228	3,027	351	(1,319)	(1,668)	(1,028)	(3,189)	9	10	(1,348)	(167)
Industrial	39,956	25,384	792	369	(824)	(812)	11	128	3	—	(197)	(74)
Commercial and Renewables	21,891	16,489	761	650	(353)	(333)	5	(17)	(12)	1	(188)	(157)
Corporate	(16,526)	(11,138)	(208)	(235)	(66)	(67)	(24)	(3)	(3)	(5)	143	99
Adjusted figures (1)	**52,130**	**34,963**	**4,372**	**1,135**	**(2,562)**	**(2,880)**	**(1,036)**	**(3,081)**	**(3)**	**6**	**(1,590)**	**(299)**
Adjustments:												
Exploration and Production	(1,800)	(1,265)	(1,330)	(2,431)	536	651	373	922	268	(630)	330	380
Industrial	(374)	(242)	877	(1,210)	12	12	—	—	31	12	(441)	179
Commercial and Renewables	(211)	(174)	72	(53)	10	10	—	—	5	1	(38)	26
Corporate	—	—	(234)	5	—	—	—	—	—	2	(62)	(302)
EU-IFRS FIGURES	**49,745**	**33,282**	**3,757**	**(2,554)**	**(2,004)**	**(2,207)**	**(663)**	**(2,159)**	**301**	**(609)**	**(1,801)**	**(16)**

(1) Figures drawn up according to the Group's reporting model described in Note 4.
(2) Including depreciation of failed exploratory drilling. For more information, see Note 21.
(3) Corresponds to the sum of "*Sales*" and "*Services rendered and other income*" (see Note 20.1). The itemization by provenance (customers or inter-segment transactions) is as follows:

	€ Million					
	Customers		Inter-segment		Total	
Segments	2021	2020	2021	2020	2021	2020
Exploration and Production	4,924	3,047	1,885	1,181	6,809	4,228
Industrial	25,502	15,556	14,454	9,828	39,956	25,384
Commercial and Renewables	21,703	16,359	188	130	21,891	16,489
Corporate	1	1	2	—	3	1
(-) Adjustments and eliminations of operating income between segments	—	—	(16,529)	(11,139)	(16,529)	(11,139)
TOTAL	**52,130**	**34,963**	**—**	**—**	**52,130**	**34,963**

[41] Some of these metrics presented in this Appendix are Alternative Performance Measures (APMs) in accordance with European Securities Markets Authority (ESMA) guidelines. For further information, see Appendix II of the 2021 consolidated Management Report.

Balance sheet figures

	€ Million							
	Non-current assets		Net operating investments (2)		Capital employed (3)		Investments accounted for using the equity method	
Segments	2021	2020	2021	2020	2021	2020	2021	2020
Exploration and Production	16,746	16,248	1,223	948	12,348	12,608	146	184
Industrial	8,674	8,552	859	565	11,163	9,755	9	6
Commercial and Renewables	4,727	4,252	829	739	4,451	4,061	376	67
Corporate	608	623	83	56	594	893	39	22
ADJUSTED FIGURES (1)	**30,755**	**29,675**	**2,994**	**2,308**	**28,556**	**27,317**	**570**	**279**
Adjustments:								
Exploration and Production	(4,653)	(4,828)	(493)	(230)	(127)	2,446	2,591	5,264
Industrial	(168)	(151)	(33)	(14)	(22)	1	234	202
Commercial and Renewables	(117)	(120)	19	(46)	4	15	159	152
Corporate	—	—	—	—	—	—	—	—
EU-IFRS FIGURES	**25,817**	**24,576**	**2,487**	**2,018**	**28,411**	**29,779**	**3,554**	**5,897**

(1) Figures drawn up according to the Group's reporting model described in Note 4.
(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.

Cash flow figures

The reconciliation of the cash flow from operations to free cash flow with the EU-IFRS Statement of Cash Flows at December 31, 2021 and 2020 is as follows:

	At December 31					
	Free cash flow		Reclassification of joint ventures and others		EU-IFRS statement of cash flow	
	2021	2020	2021	2020	2021	2020
I. Cash flows from / (used in) operating activities (cash flow from operations)	5,453	3,197	(776)	(459)	4,677	2,738
II. Cash flows from / (used in) investing activities	(2,614)	(1,218)	(319)	1,440	(2,933)	222
Free cash flow (I+II)	**2,839**	**1,979**	**(1,095)**	**981**	**1,744**	**2,960**

Net debt

The reconciliation of net debt to the IFRS-EU balance sheet as at December 31, 2021 and 2020 is as follows:

	Net debt	Reclassification of joint ventures	IFRS-EU balance sheet
€ Million	2021	2021	2021
Non-current assets			
Non-current financial instruments(1)	431	702	1,133
Current assets			
Other current financial assets	2,459	(8)	2,451
Cash and cash equivalents	5,906	(311)	5,595
Non-current liabilities			
Non-current financial liabilities (2)	(10,810)	625	(10,185)
Current liabilities			
Current financial liabilities (2)	(3,748)	(863)	(4,611)
NET DEBT(3) (4)	**(5,762)**	**145**	**(5,617)**

(1) Amounts included under "*Non-current financial assets*" in the balance sheet.
(2) Includes net non-current and current leases amounting to €3,045 and €636 million, respectively, according to the Reporting model and €2,429 and €499 million, respectively, according to the IFRS-EU balance sheet.
(3) In 2020, this included the adjustment due to eliminating the net market value for financial derivatives other than exchange rate derivatives, which the Group decided to no longer taken into consideration as of 2021 as they are scantly representative.
(4) The reconciliations in previous period are available at www.repsol.com.

APPENDIX IV: Regulatory framework

The activities of Repsol, S.A. and its subsidiaries are subject to extensive regulation, the key aspects of which are described below.

Spain

The Group's main place of business is in Spain and its registered office is located at calle Méndez Álvaro, 44, Madrid.

Basic legislation

Spain currently has 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 create a safe, cost-effective, economically-sustainable, and environmentally-friendly energy system.

Law 3/2013 of June 4, on the creation of the Spanish 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 Commission.

Royal Decree Law 1/2019, of January 11, proceeds with returning to the CNMC the competencies that were taken away in 2014, thus bringing the competencies of the CNMC into line with to the requirements of EU law in relation to Directives 2009/72/CE and 2009/73/CE of the European Parliament and Council, of 13 July 2009, concerning common rules for the internal market in electricity and natural gas.

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.

This control, in addition to the electricity and gas sectors, now extends to the liquid hydrocarbons sector including companies that pursue refining activities, pipeline transportation, and storage of oil products, or companies that hold title to said assets, which become strategic assets.

Principal operators and dominant operators

Under Royal Decree Law 5/2005, of March 11, the Spanish National Energy Commission (currently the CNMC) is required 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 holding 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.

Hydrocarbon exploration and production

From the entry into force of Law 7/2021 on climate change and the energy transition, on May 22, 2021, no new exploration authorizations, hydrocarbon research permits or hydrocarbon exploitation concessions will be granted in Spain, including the territorial sea, the exclusive economic zone and the continental shelf, as regulated under Law 34/1998, of October 7, on the hydrocarbons sector, and Royal Decree Law 16/2017, of November 17, establishing safety provisions for hydrocarbon research and operation in the marine environment, or for any activity for hydrocarbon operations in which the use of high-volume hydraulic fracturing is envisaged.

Five years prior to the end of the term of an operating concession, and without prejudice to the requirements established in the Royal Decree granting the concession, the person or entity holding the concession must submit a report to the Ministry for Ecological Transition and the Demographic Challenge that reflects the potential for reconverting their facilities or their location for other uses of the subsoil, including geothermal energy, or for other economic activities, in particular, the establishment of renewable energies, and that must include the levels for maintaining research permits and concessions for operating the hydrocarbon fields already in force that are located in the territorial sea, the exclusive economic zone and the continental shelf, as they may not, under any circumstances, be extended beyond December 31, 2042.

Research permits and concessions for operating hydrocarbon fields already in force that are located in the territorial sea, the exclusive economic zone and the continental shelf may not, under any circumstances, be extended beyond December 31, 2042.

For those concessions currently in force, Royal Decree Law 16/2017 should be taken into account, which establishes safety provisions for hydrocarbon research and operation in the marine environment, implemented by Royal Decree 1339/2018, of October 29, transposing Directive 2013/30/EU, of 12 June 2013 on safety of offshore oil and gas operations "Offshore Directive") into Spanish law. The purpose of the Law is to establish minimum requirements that offshore hydrocarbon research and operations must meet to prevent major accidents, to mitigate their consequences and to define action principles to ensure that offshore operations, including the abandonment and decommissioning of facilities, in order to prevent serious accidents and limit their consequences.

With regard to offshore activity, Law 41/2010, of December 29, on the protection of the marine environment, regulates marine strategies as planning instruments for the five marine districts into which the Spanish marine environment is divided. The authorization of any activity that requires carrying out works or installations in marine waters, their bed or their subsoil, or the placement or deposit of materials on the seabed, or discharges regulated in Title IV of the Law, must have a favorable report from the relevant Ministry regarding its compatibility with the marine strategy. Royal Decree 79/2019, of February 22, regulates and implements the procedure for processing this report and establishes the criteria for compatibility with the marine strategies, and is applicable in the case of the modification, renewal or extension of existing actions.

Oil products

The price of oil products is deregulated, with the exception of LPG (see specific information below).

In the retail side of the business, exclusive supply contracts for the distribution of motor fuels have a maximum term of one year, and they can be automatically rolled over for additional one-year periods at the sole discretion of the distributor, for a maximum of three years. The new legislation also bans clauses that set, recommend or influence, directly or indirectly, the price at which fuel is sold to the public. Likewise, exclusive supply contracts are prohibited from containing exclusivity clauses with regard to the provision of charging services to electric vehicles.

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 this market share shall no longer be measured in terms of points of sale but rather based on sales figures for the previous year, 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. This period has elapsed without the government having reviewed the above measure for the time being.

Finally, Law 8/2015 allows owners of oil product retailers to supply products to other retail distributors, simply by registering in advance with the excise tax registry.

Minimum stocks

Royal Decree 1766/2007, regulates the obligation to maintain a minimum stocks in the oil and natural gas sectors, the obligation to diversify the supply of oil and natural gas, and the activities of the Corporation of Strategic Reserves of Oil Products (CORES for its acronym in Spanish).

The obligation to maintain minimum stocks of oil products in Spain 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 must maintain stocks corresponding to 50 days of sales, while the remaining stocks are held by CORES on behalf of the various operators (strategic reserves) until the obligation established has been met.

Royal Decree Law 15/2013, of December 13, introduces an amendment to the Hydrocarbon Sector Law, indicating that via regulation, administrative procedures and obligations needed to ensure, on an ongoing basis, a minimum safety buffer equivalent to at least 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

Under certain circumstances, LPG prices are subject to retail price ceilings. The prices of bulk LPG and bottled LPG in cylinders with capacity of under 8 kg or over 20 kg are deregulated. Law 18/2014, of October 15, has had the effect of also deregulating the prices of containers with capacity of more than 8 kg or less than 20 kg with a tare weight of no more than 9 kg, with the exception 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 sold 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 kg and 20 kg 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 Balearic Islands, DISA in the Canary Islands and Atlas in Ceuta and Melilla.

On November 28, 2019, the Supreme Court handed down judgments dismissing two appeals for judicial review filed by Repsol Butano and Disa Gas against Ministerial Order IET/389/2015, of March 5, and indirectly against Articles 57 and 58 of Law 18/2014, of October 15, applied by the Order under appeal. This regulatory framework excludes LPG containers with a load equal to or greater than 8 kg and less than 20 kg, with a tare weight of more than 9 kg, from the deregulation introduced by Law 18/2014; it establishes an obligation for LPG wholesale operators with a greater market share in certain territories to supply residential homes and, lastly, it maintains the regulated price of containers with a tare weight of less than 9 kg for operators required to supply residential homes that do not have containers with a tare weight greater than that mentioned, in the corresponding territory. This framework particularly affects Repsol Butano, which is the majority operator on the mainland and the Balearic Islands, and whose fleet consists mainly of heavy containers with a tare weight of more than 9 kg.

Natural gas

Law 12/2007, of July 2, which amended the Hydrocarbon Sector Law, 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 sale 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.

Under the scope of the redistribution of competences regulated by Royal Decree Law 1/2019, the CNMC approved Circular 6/2020, of July 22, establishing the methodology for calculating transmission, local network and natural gas regasification fees. In particular, the methodology for determining access fees to regasification facilities, with the exception of the fee for other regasification costs, entered into force on October 1, 2020. The methodologies for the remaining fees will take effect as of October 1, 2021, and until this date the current fee structure and billing rules will continue to apply.

However, for gas year 2020-2021, the CNMC reserved the right to update the piping terms of the current transmission and distribution fees, considering the result of applying the methodologies provided for in its Circular 6/2020 and in order to ensure sufficient income for the system. In this regard, the CNMC approved its Resolution of September 22, 2020, establishing the access fees for transmission networks, local networks and regasification from October 2020 to September 2021.

The Royal Decree establishing the methodologies for calculating gas system charges, the regulated remuneration of basic underground storage facilities and the fees applied for their use is still being processed.

On December 10, 2020, the CNMC approved the resolution establishing the list of dominant operators in the energy sectors, including the Repsol Group among the dominant operators in the natural gas market. Subsequently, the Resolution of the Council of Ministers dated February 2, 2021 established Repsol's obligation to act as a market maker in the Spanish Organized Gas Market. The conditions for the participation of the Repsol Group were established in the Resolution dated July 9, 2021 of the Secretary of State for Energy, which establishes the terms and conditions governing the service making it mandatory for dominant operators to act as market makers in the natural gas market.

Electricity sector regulation in Spain

Deregulation of the Spanish electricity sector began in 1997 with the approval of Electricity Sector Law 54/1997, of November 27, amended by Law 17/2007, of July 4, and later by Electricity Sector Law 24/2013, of December 26.

Production and sale activities continue to be deregulated, governed by competition, while transmission, distribution and the system's technical and financial management remain as regulated activities, characterized by access that requires administrative authorization, and their remuneration is established by regulations and 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 electricity 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 and now by Royal Decree 244/2019, of April 5, regulating the administrative, technical and economic conditions for self-consumption in Spain. This regulation supplements the regulatory framework promoted by Royal Decree Law 15/2018, the main measure of which was to repeal the so-called "sun tax", and represents a new energy panorama that is committed to a model based on distributed generation and renewable energies. Among the many new developments, the following are worth mentioning:

- Recognition of the figure of shared self-consumption, which provides the possibility that several users may benefit from the same generating facility.
- Simplification of bureaucratic procedures and deadlines for the legalization of facilities.
- Introduction of simplified compensation for generation surpluses. Self-consumed energy from renewable sources, combined heat and power systems or waste, as well as surplus energy released into the transmission and distribution network, will be exempt from all types of charges and fees.

Ministerial Order ETU/130/2017, of February 17, updated the remuneration parameters of standard facilities applicable to certain facilities producing electricity from renewable energy sources, combined heat and power systems and waste, in order to be applied to the regulatory half period commencing on January 1, 2017.

Once the first regulatory period has ended, Ministerial Order TED/171/2020, of February 24, established the remuneration parameters for the second regulatory period, from January 1, 2020 to December 31, 2025, as well as the value of the operating subsidy, for the first six months of 2020, for standard facilities whose operating costs depend essentially on the price of the fuel. The review carried out by this Order relates to all approved standard facilities, which provides an overall view of the remuneration parameters applicable thereto.

a. Remuneration system for 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, combined heat and power systems 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, combined heat and power systems 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 Ministerial 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 Ministerial Order IET/2212/2015, and the 2nd auction in 2017 through Royal Decree 650/2017 and Ministerial Order ETU/615/2017), similar to the 1st of that year and open to all technologies.

Royal Decree Law 23/2020, of June 23, entrusts the government with the regulatory development of a remuneration framework for renewable generation, based on the long-term recognition of a fixed price for energy. For such purpose, it provides for the holding of competitive tender procedures, which may be differentiated by technology, technical characteristics, size, location, manageability and other criteria, in which the product to be auctioned is energy, installed capacity or a combination of both. In this regard, Royal Decree 960/2020, of November 3, has been approved, which regulates the aforementioned remuneration framework for renewable generation, to be granted through auctions, while at the same time creating the electronic register of the economic regime for renewable energies.

The head of the Ministry for Ecological Transition and the Demographic Challenge is responsible for regulating the auction mechanism, by means of a Ministerial Order, while the head of the Secretary of State for Energy is responsible for calling the auctions by means of a Resolution. In this regard, Ministerial Order TED/1161/2020, of December 4, regulates the first auction mechanism for granting the repeated economic regime for renewable energies and establishes the indicative timetable for the 2020-2025 period.

Returning to Royal Decree Law 23/2020, it also contains provisions relating to access and connection to the networks, stipulating deadlines and administrative milestones for processing existing projects and allowing the extension of permits to seven years. It also introduces a moratorium on new access permits, with exceptions, until the regulatory framework for access and connection is approved, so that, until the government and the CNMC implement Article 33 of Law 24/2013, new applications will not be accepted for existing access capacity at the entry into force of this Royal Decree Law or that may be subsequently released as a result of expiries, waivers or other circumstances. Similarly, the regulation enables holders of access permits, or access and connection permits, obtained between December 27, 2013 and June 25, 2020, or requested prior to June 25, 2020, to forgo their permits or applications within three months of the entry into force of this Royal Decree Law, and the financial guarantees provided will be returned.

Lastly, the Royal Decree Law of June 23 streamlines the processing of modifications to existing facilities, regulates figures such as the renewable energy community or the independent aggregator and incorporates provisions relating to hybridization and high-power charging infrastructures.

b. Remuneration system for marketing activity

The marketing activity is based on the principles of freedom of contract and choice of supplier by the customer. Marketing, as a deregulated 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 throughout the entire Spanish territory. The term last resort tariffs is reserved for two groups of consumers: the so-called vulnerable consumers (which also includes 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 small consumers 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 reseller. It also sets out the criteria for designating reference resellers 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 resellers to be included in the calculation of the voluntary price for small consumers. Ministerial Order ETU/1948/2016, of December 22, established the values of the marketing costs of the reference resellers to be included in the calculation of the voluntary price for small electricity consumers in the 2014-2018 period, 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.

Royal Decree Law 17/2021, of September 14, on urgent measures to mitigate the impact of rising natural gas prices on the retail gas and electricity markets, passed extraordinary measures in view of the high electricity prices and their effects on consumers during the autumn and winter months, which included fiscal measures eliminating the tax on the value of electricity production in the fourth quarter of 2021 and reducing the special tax on electricity; established a mechanism to reduce the excess remuneration that certain facilities receive as a result of the marginal operation of the market until March 2022; and created a minimum vital supply to combat energy poverty, among other measures. Royal Decree Law 23/2021, of 26 October, on urgent energy measures to protect consumers and ensure transparency in the wholesale and retail electricity and natural gas markets, introduces a clarification with regard to Royal Decree Law 17/2021 regarding the mechanism for reducing the excess remuneration of the electricity market caused by the quoted price of natural gas, indicating that it will not apply to energy produced by electricity generation facilities that is covered by a forward contracting instrument, when the hedging price is fixed, and provided that the forward contracting instrument was entered into prior to the entry into force of the Royal Decree Law or when, having been entered into after the entry into force of the Royal Decree Law, its hedging period is longer than one year.

In particular, Royal Decree Law 30/2020, of September 29, has expanded the consideration of vulnerable consumers in their principal residence and, therefore, extended the possibility of receiving the subsidized electricity tariff (“bono social”) to consumers who are unemployed, subject to a temporary redundancy procedure, or, being entrepreneurs, have reduced their working hours as a result of having to care for others or that are enduring similar circumstances that entail a substantial loss of income. Royal Decree Law 23/2021 increased the discounts of the subsidized electricity tariff until the first quarter of 2022.

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 December 27, on fiscal measures for energy sustainability introduced by the IVPEE, commonly known as the green cent, the hydroelectric royalty, etc.
- Royal Decree Law 9/2013, of July 12, establishes a number of additional remuneration principles for the transmission and distribution of electricity, and establishes the concept of reasonable return in project return, which, before taxes, will be based 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 balance.
- 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 temporary 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% 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 revenue 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.

With regard to fees, the CNMC approved Circular 3/2020, of January 15, establishing the methodology for calculating electricity transmission and distribution fees. This Circular was later modified by CNMC Circular 7/2020, of July 22, in order to extend the transitional period until April 1, 2021. However, the Royal Decree on electricity charges is still underway.

Contributions to the national energy efficiency fund

Directive 2012/27/EU of the European Parliament and of the Council of 25 October 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.

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.

In particular, Ministerial Order TED/287/2020, of March 23, establishes the aggregate savings target, as well as the allocation of savings obligations and their economic equivalence for 2020.

Royal Decree Law 23/2020, of June 23, extended the Spanish energy efficiency obligation scheme until December 31, 2030, thus complying with Directive (EU) 2018/2002 of the European Parliament and of the Council of December 11, which requires Member States to achieve new annual savings of 0.8% of annual final energy consumption from January 1, 2021 to December 31, 2030.

Energy audits

Royal Decree 56/2016, of February 12, transposing 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 optimal 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 implemented in the Group's main industrial companies.

Climate change

Following the Paris Agreement, the commitments assumed by the signatories under their respective National Determined Contributions had a significant impact on the development of new climate policies and on the approval of new regulations. The European Union (EU), also a signatory of the Paris Agreement, has made a commitment to climate neutrality by 2050. To this end, in December 2019 the European Commission presented the "European Green Deal", which constitutes the new EU growth strategy, and which aims to completely transform the European economy, highlighting the following proposals for 2021: (i) European Climate Law (published in the Official Journal of the European Union on July 9, 2021 and entered into force on July 29, 2021), which includes a legally binding target of net zero greenhouse gas emissions by 2050; and (ii) the "Fit for 55" package of proposals presented in July 2021 to reduce greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels. These proposals are interconnected and stretch across a variety of policy areas and economic sectors.

In Spain, the "Strategic Framework for Energy and Climate" includes the following fundamental pillars: (i) the National Integrated Energy and Climate Plan; (ii) the Strategy for a Just Transition; and (iii) Law 7/2021, of May 20, on climate change and the energy transition (published in May 2021), which establishes, at the country level, minimum targets for reducing greenhouse gas emissions, the penetration of renewable energies and improving energy efficiency by 2030 with a commitment to achieve climate neutrality by 2050 or in the shortest possible time frame.

In relation to mobility, this Law establishes:

– the introduction of annual targets for the integration of renewable energies and the supply of sustainable alternative fuels in transport, with a special emphasis on advanced biofuels and other renewable fuels of non-biological origin.

– the obligation of public authorities to adopt the necessary measures, in accordance with that established in EU regulations, in order to: (i) ensure that passenger cars and light commercial vehicles do not have direct CO_2 emissions by 2050, and (ii) gradually reduce the emissions of new passenger cars and light commercial vehicles, excluding those registered as historic vehicles, not intended for commercial uses, so that these vehicles have emissions of 0 g CO_2/km no later than 2040.

– the obligation to install an alternative fuels infrastructure for those operators of facilities supplying fuels for vehicles (for more information, see "Alternative fuels") below.

The following are also noteworthy: (i) the Hydrogen Roadmap (published in October 2020), which focuses on the development of renewable hydrogen, with the aim of positioning Spain as a technological benchmark in the production and use of renewable hydrogen, while at the same time contributing to achieving objectives such as reaching climate neutrality, the use of surplus renewable energy or the decarbonization of sectors where electrification is not viable or profitable; and (ii) the 2050 Long Term Decarbonization Strategy (published on November 3, 2020), to move towards climate neutrality by 2050, with milestones in 2030 and 2040.

Alternative fuels

Directive 2018/2001 on the promotion of the use of energy from renewable sources provides that, in order to integrate the use of renewable energies in the transport sector, each Member State must impose an obligation on fuel suppliers to ensure that the share of renewable energies in final energy consumption in the transport sector is at least 14% by 2030. This Directive was partially transposed into Spanish law through Royal Decree (RD) 205/2021, of March 30 (which amends RD 1085/2015, of December 4, on the promotion of biofuels), establishing mandatory minimum targets for the sale or consumption of biofuels for 2021 and 2022 of 9.5% and 10%, in terms of energy content, respectively.

RD 639/2016, of December 9, established a framework of measures for the implementation of infrastructure for alternative fuels, including charging points for electric vehicles and refueling points for natural gas and hydrogen. To ensure that there are sufficient electric charging points, the Climate Change and Energy Transition Law introduces obligations that require service stations with annual sales of gasoline and diesel exceeding 5 million liters to install infrastructure for charging electric vehicles. This charging infrastructure must have a power output equal to or greater than 150 kW or 50 kW in direct current depending on the sales volume (greater than 10 or 5 million liters sold in 2019). The minimum power for new installations as of 2021, or those that undertake a reform of their installation that requires the administrative title to be reviewed, will be direct current of 50 kW.

Bolivia

The 2009 Bolivian Constitution establishes that the National Oil company Yacimientos Petrolíferos Fiscales Bolivianos (YPFB) is authorized to enter into service agreements with public or private companies to undertake activities for 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") and technical and economic regulations.

On May 1, 2006, Supreme Decree no. 28,701 was enacted, which nationalized the country's hydrocarbons. Furthermore, the shares required to enable YPFB to control at least 50% plus one vote in various companies, including 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 hydrocarbon exploration and production in Bolivia. Furthermore, Law No. 817 of July 19, 2016 was enacted, supplementing Article 42 of Law No. 3,058, previously amended by Law No. 767, allowing YPFB to extend the term of the Operating Contracts.

Operating Contracts and Oil Service Contracts

According to the Hydrocarbons Law and Article 362 of the Bolivian Constitution (CPE), any individual or group, national or foreign, public or private person may enter into one or more production sharing, operating or association contracts with YPFB to carry out exploration and operation activities, for a period not to exceed forty (40) years. The CPE of 2009 and Law 767 limit the type of contract to oil service contracts, which have similar characteristics as the operating contracts of Law 3058.
An operating contract and an oil service contract are those contracts by which the titleholder will execute, by its own means and at its own risk, for and on behalf of YPFB, the operations corresponding to the exploration and operation activities within the area covered by the contract, under the remuneration system, in the case of entering into operation activities. YPFB will not make any investment and will not assume any risk or liability for the investments or results obtained in relation to the contract, and it is the exclusive responsibility of the titleholder to provide all capital, installations, equipment, materials, personnel, technology and other necessary items.

YPFB remunerates the holder for the operating services in cash through the titleholder's remuneration. This payment will cover all operating and utility costs. YPFB must pay the royalties. Once production has started in an oil service contract, the titleholder is required to deliver all oil and gas produced to YPFB. The titleholder will be entitled to remuneration under the operating contract and/or the oil service contract, for the total amount produced and delivered to YPFB.

Oil contracts and amendments thereto require authorization and approval by the Plurinational Legislative Assembly, in accordance with the CPE (Legislative Power).

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, effective as of May 2, 2007. On June 13, 2018, Repsol E&P Bolivia, S.A. entered into an oil service contract with YPFB for the exploration and operation of the Iñiguazu Area, effective as of August 26, 2019.

In addition, the natural gas and liquid hydrocarbon delivery agreements establishing the terms and conditions governing the delivery of hydrocarbons by the titleholder were entered into on May 8, 2009.

Canada

Regulation of exploration and production activities

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 with freehold mineral owners through direct negotiation. The royalties applicable to production from Crown lands are established by government regulation and, in general, calculated as a percentage of gross production based on the productivity of the wells, geographical location, date on which the oil fields were discovered, recovery method and type and quality of substance produced. Occasionally, the provincial governments may offer incentive programs for exploration and development. Such programs seek to reduce the royalty rate or other fees or offer certain tax credits. Fees and royalties 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, water usage, exploration, development, production, refining, transport and sales, 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 Regulator, the Saskatchewan Ministry of Economy and the Saskatchewan Ministry of the Environment, as well as federal regulatory bodies such as the Impact Assessment Agency of Canada and the Canada Energy Regulator.

Environmental and emissions regulations

Environment regulations from provincial and Canadian federal governments restrict and prohibit the release or emission of various substances that are considered harmful, such as sulfur dioxide, carbon dioxide and nitrous oxide.

Regulations also impose conditions or prohibitions on 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, suspension of work, lawsuits or other sanctions.

In addition to the regulation and control of exploration and production activities, the provincial and Canadian federal governments have also enacted various forms of emissions regulations. Specifically for the province of Alberta, where most of the Company's activities are carried out, the Technology Innovation and Emissions Reduction Implementation Act (TIER) establishes a price of 50 Canadian dollars per ton of carbon emissions by 2022.

The TIER regulations are intended to meet federally mandated carbon standards. In December 2019 TIER was accepted under the federal Greenhouse Gas Pollution Pricing Act.

The provincial government of Alberta has also committed to reducing methane emissions from oil and gas operations by 45% by 2025 through new emissions design standards for facilities, improved measurement and reporting and new regulated standards starting in 2020.

In addition to the provincial regulations, the Canadian federal government has announced an increase in the government's carbon price to CAD $170 per ton by 2030.

United States of America

Offshore exploration and production

The two government agencies responsible for offshore exploration and production on the Outer Continental Shelf 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 review 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 safety 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 US 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, Pennsylvania and Texas. In Alaska and Texas, exploration and production activities are regulated by the Alaska Department of Natural Resources and the Railroad Commission of Texas, respectively. 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 jurisdiction over certain environmental aspects that affect the gas and oil sector. The United States 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 interstate commerce 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 interstate commerce. 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.

Biden Administration Orders

On January 27, 2021, President Biden issued an Executive Order titled, "Tackling the Climate Crisis at Home and Abroad." This Executive Order provides, among other things, "To the extent consistent with applicable law, the Secretary of the Interior shall pause new oil and natural gas leases on public lands or in offshore waters pending completion of a comprehensive review and reconsideration of Federal oil and gas permitting and leasing practices in light of the Secretary of the Interior's broad stewardship responsibilities over the public lands and in offshore waters, including potential climate and other impacts associated with oil and gas activities on public lands or in offshore waters. The Secretary of the Interior shall complete that review in consultation with the Secretary of Agriculture, the Secretary of Commerce, through the National Oceanic and Atmospheric Administration, and the Secretary of Energy. In conducting this analysis, and to the extent consistent with applicable law, the Secretary of the Interior shall consider whether to adjust royalties associated with coal, oil, and gas resources extracted from public lands and offshore waters, or take other appropriate action, to account for corresponding climate costs." The Executive Order does not specify a duration for the directed pause in new oil and gas leasing.

A lawsuit has been filed against Executive Order 14008. On June 15, 2021, a US District Judge in Louisiana issued a preliminary injunction, with nationwide reach, challenging the pause on new oil and natural gas leasing on public lands and in offshore waters found in Section 208 of this Executive Order. The Department of Justice has appealed the preliminary injunction and the Department of the Interior indicated in a press release dated August 16, 2021 that it will continue federal lease sales pursuant to the injunction pending appeal.

Peru

The Constitution includes the main bases of its legal framework governing the hydrocarbons market in Peru. The Constitution states that the government promotes private initiatives, recognizing the economic pluralism, and the state having a subsidiary role in terms of business concerns. The Constitution also establishes that private and public business activity must be treated equally under the law, and that 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, that pursue hydrocarbon activities are expressly subject to the laws of the Republic of Peru, renouncing the right to any diplomatic recourse.

The most important authorities with competence over Peruvian hydrocarbon 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 the Energy and 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, S.A. 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 Hydrocarbons Law (OHL), 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 objectives, the OHL created PERUPETRO, a state-owned limited company organized as a public corporation, 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 operation 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 OHL stipulates that any natural or legal persons, whether national or foreign, may install, operate, and maintain oil refineries, plants for processing natural gas and condensates, natural asphalt, greases, lubricants, and petrochemicals, subject to the norms specifically established by MINEM.

In Peru, the marketing of hydrocarbon derivatives is regulated by supply and demand. However, Emergency Decree 010-2004 created the Fund for the Stabilization of Petroleum Derived Fuel Prices (FEPC) as an intangible fund to prevent the high volatility of oil prices and its derivatives from being passed on to consumers.

The FEPC's operating mechanism established by Emergency Decree 010-2004 and its Regulations indicates that when the import or export parity price, as the case may be, is higher than the upper limit of the corresponding price band, the producers and importers could apply a discount in the prices of the products for the same value defined by the compensation factor approved by the General Directorate of Hydrocarbons of the Ministry of Energy and Mines, whereby the FEPC would have a debt with these producers and importers for the amount of the applied compensations. Conversely, when the import or export parity price, as the case may be, is lower than the lower limit of the corresponding price band, an obligation would be generated for the producers and importers with the FEPC defined by the contribution factor. Article 10 of Emergency Decree 010-2004 establishes that each company will freely determine, in accordance with their commercial policies, the premiums or discounts to be applied for each product and customer over OSINERGMIN's reference prices, while maintaining the freedom to set the sales prices with its customers.

Although the FEPC has been applied for many years, Diesel and LPG were excluded from the FEPC in March 2020. However, in March 2021, the Ministry of Energy and Mines approved Supreme Decree No. 006-2021-EM, extended by Supreme Decree No. 015-2021-EM, which temporarily included diesel for vehicle use in the FEPC (during the period from March 27 to August 27, 2021). The most significant changes to the mechanism include the fact that compensation from the Fund will only be given to companies that maintain their primary sales price stable and without any change with regard to the primary sales price in effect on the date of publication of the aforementioned decree. This provision makes compensation conditional on maintaining fixed prices, which contravenes the freedom of contract, as well as Article 77 of the OHL, which establishes that the prices of crude oil and its derivatives are governed by supply and demand and distorts the FEPC.

Subsequently, Supreme Decree No. 025-2021-EM, of November 9, 2021, included diesel for vehicle use in the FEPC for an indefinite period of time. It also indicated that the primary sale price of such fuel must remain stable, i.e., it must not be above the corresponding target price band (defined by OSINERGMIN), which represents a change in relation to the wording of the supreme decrees of 2021 mentioned above, but it still violates principles such as the freedom of contract and free pricing of crude oil and its derivatives based on supply and demand as established in current regulations, since it establishes a maximum price for its sale, thus violating the freedom of companies to establish their prices in the market. A similar situation is occurring with LPG, which has been included in the FEPC since September 2021.

Portugal

In Portugal, Decree Law No. 31/2006, of February 15, sets out the framework for the National Oil System (SPN) and has been implemented and regulated through extensive administrative regulations.

Sale prices of crude oil and oil products are freely set on the market, without prejudice to the rules on competition and public service obligations, however, prices in the autonomous regions of the Azores and Madeira are administratively set by the regional governments. Pursuant to Law No. 69-A/2021, of October 21, the government has the power to intervene, on an exceptional basis, in setting maximum margins for any of the commercial components of the retail price of simple fuels or bottled LPG. These maximum margins may be established, with a specific duration, for any of the activities in the value chain of simple fuels or bottled LPG, being set by Ministerial Order issued by the members of government responsible for the areas of economy and energy, following the proposal of the Portuguese Energy Services Regulatory Authority (ERSE) and consultation to the Portuguese Competition Authority (AdC), which has not yet been published.

Sales, which include wholesale and retail trade activity, are freely carried out, but depends on obtaining a certificate, in addition to compliance with other obligations, especially with regard to tax and customs matters, regularity of supply, publication of prices and the provision of information to various competent administrative bodies, as well as verification of seller's good standing.

Minimum stocks

Portugal is required to maintain minimum stocks in the crude oil and/or oil products sectors, in accordance with Decree Law No. 165/2013, of December 16, which transposed EU legislation, corresponding to 90 days of average daily net imports of crude oil and oil products into the country over the last year, it being legally possible to hold stocks in another EU Member State, provided that all requirements have been verified and the necessary formalities have been completed.

LPG

LPG - piped, bottled and bulk - is regulated by Decree Law No. 57-A/2018, of July 13, and is subject to control by the Portuguese Energy Services Regulatory Authority (ERSE), which assumed the functions of the Portuguese Competition Authority (AdC) in terms of supervision, without prejudice to the powers of the AdC to issue recommendations and codes of conduct, carry out studies and inspections, decide on concentrations, initiate administrative proceedings for infringements of competition law and impose fines, for which it is granted extensive powers of investigation, including the power to carry out domiciliary searches.

Decree Law No. 5/2018, of February 2, establishes the obligation to sell bottled LPG in all of the country's service stations, unless they receive a prior exemption upon a reasoned request of the interested party.

With regard to the sale of LPG, Decree Law No. 31/2006 provides for the sale of bottled, piped and bulk LPG. The supplier of bulk LPG is required to give the customer, or the supplier chosen by the customer, the option of transferring ownership of the facility (storage and piping) upon expiry of the contract. With regard to bottled LPG, a legal obligation has been established to accept containers from other companies, at no cost to the customer, as detailed in Decree Law No. 5/2018, of February 2, which also makes it mandatory to sell bottled LPG at all service stations in Portugal and determines that the regulations on essential public services apply to bottled LPG and that the "leftover product" in the container delivered by the customer must be deducted from the sale price of the container, under the terms to be defined in regulatory legislation not yet published.

Storage

Storage activities include the operation of (i) storage facilities for direct supply to end customers, (ii) storage facilities for oil products in tare, and (iii) wholesale facilities, and will be licensed by the Minister of Custody, while the licensing of other storage facilities is the responsibility of the competent licensing authorities. The procedure for obtaining licenses to operate oil product storage facilities and the supervision conditions for tax audits are defined in Decree Law No. 267/2002.

The storage of liquid fuels, LPG and other gases derived from oil, solid fuels and other oil products is regulated by Decree Law No. 267/2002, of November 26, and Ministerial Order (Portaria) No. 1188/2003, of October 10.

The regulations establish the right of access for third parties to large storage facilities which are declared to be of public interest, operators of which will be required to grant access to third parties, under non-discriminatory, transparent and objective technical and economic conditions, as well as the right of access to large storage and distribution facilities of piped LPG for sale to end customers.

Service stations

Service stations are subject to licensing, in accordance with Decree Law No. 267/2002, of November 26. Law No. 6/2015, of January 16, requires all service station operators to sell fuels without additives, known as simple fuels.

Decree Law No. 170/2005, of October 10, as amended by Decree Law No. 120/2008, of July 10, makes it mandatory to publish fuel sale prices on the monoliths of service stations and, in the case of service areas located on highways, comparative panels (the prices of the next two service areas are compared) on the highway itself.

Environmental regulation

With regard to environmental prevention, Decree Law No. 151-B/2013, of October 31, indicates that certain facilities (in particular refineries and petrochemical plants, pipelines for the transportation of oil, storage facilities for oil, petrochemical products or chemical products, and surface industrial facilities for oil extraction, among others) are subject to an inspection procedure to assess the significant impacts on the environment and to the imposition of conditioning and/or compensatory measures, while Decree Law No. 152-B/2017 stipulates that climate changes, population, human health and soil should be assessed in future procedures.

Decree Law No. 127/2013, of August 30, establishes the industrial emissions regime, with the aim of preventing and reducing emissions, and is applicable to industrial facilities in this sector, in particular refineries and petrochemical plants, establishing the obligation to obtain an environmental license that sets out a broad set of requirements and conditions that must be met by the beneficiary, in particular emission limits for pollutants and measures for waste management, among others, prior to carrying out the activity.

Decree Law No. 12/2020, of April 6, imposes the obligation on operators producing greenhouse gases to obtain a Greenhouse Gas Emissions Certificate (Título de Emissão de Gases com Efeito de Estufa (TEGEE)) in accordance with EU Directives and the Kyoto Protocol, while Ministerial Order (Portaria) No. 420-B/2015, of December 31, imposes additional taxes on CO2 emissions on some oil products, based on the prices of the emission license auctions at the CELE.

The legal regime for environmental liability was approved by Decree Law No. 147/2008, of July 29, and defines the objective and subjective scope of the environmental liability of economic operators, imposing the obligation to provide one or more financial guarantees (their own and autonomous, alternative or complementary to each other) to enable operators to assume the environmental liability inherent in their activity, which may be provided through various instruments. This regime is supplemented by the Environmental Administrative Offenses Act (Ley Quadro das Contra-Ordenações Ambientais), published by Law No. 50/2006, of August 29, which sets fines that can reach up to €5 million.

Decree Law No. 75/2015, of May 11, established the Single Environmental Certificate, which contains all the terms and conditions for the construction, exploration and monitoring of an environmental project and all administrative certificates and permits necessary to carry out the activity, the model for which was approved by Ministerial Order (Portaria) No. 137/2017, of April 2.

Decree Law No. 68-A/2015, of April 30, establishes regulations on energy efficiency and cogeneration production, transposing Directive 2012/27/EU of the European Parliament and of the Council of October 25, 2012, applicable to companies other than SMEs (small and medium-sized enterprises), which are required to register with the Directorate General for Energy and Geology (DGEG) and record all information on their energy consumption, in order to monitor the evolution of this consumption, and they must also carry out an independent energy audit every four years.

Climate change and alternative fuels

Council of Ministers Resolution No. 53/2020, of July 10, approved the 2030 PNEC (2030 National Energy and Climate Plan), establishing objectives, among others, to decarbonize the national economy, strengthen the commitment to renewable energies and reduce the country's energy dependence, and Council of Ministers Resolution No. 63/2020, of August 14, approved the National Hydrogen Plan - EN-H2, of exclusively green origin.

The quality levels and characteristics of oil products are provided for in (i) Decree Law No. 89/2008, of May 30 (quality rules for gasoline and diesel fuels), and (ii) Decree Law No. 281/2000, of November 10, which establishes the limits on the sulfur level of certain types of petroleum-derived liquid fuels.

Decree Law No. 117/2010, of October 25, establishes (i) the sustainability criteria for the production and use of biofuels and bioliquids, regardless of their origin, (ii) the mechanisms for promoting biofuels in land transport, and (iii) the limits for the compulsory incorporation of biofuels for the 2011-2020 period, whereby the targets for the 2020-2030 period were updated by Decree Law No. 60/2020, of August 17.

Decree Law No. 60/2017, of June 9, establishes the legal framework for the creation of infrastructure for alternative fuels, defined as: electricity, hydrogen, biofuels, synthetic and paraffinic fuels, natural gas –compressed or liquefied–, and LPG. Council of Ministers Resolution No. 88/2017, of June 26, approved the National Action Framework for the development of the market for alternative fuels in the transportation sector.

The Framework Climate Law (Law No. 98/2021 of December 31) entered into force on February 1, 2022 and establishes the regulatory framework under which Portugal undertakes to achieve carbon neutrality by 2050 through the implementation of energy transition measures and policies. The Law will have to be implemented over the next few years by supplementary legislation that will make changes in the energy sector through the implementation of various energy transition measures and policies: green taxation, carbon taxes on the use of fuel, policies for the use of electric and hybrid vehicles with a view to banning the sale of vehicles powered exclusively by fossil fuels by 2035, restrictive use of fossil fuel natural gas in electricity production, incentives for the use of renewable sources in electricity production, circular economy in industrialization.

Electricity and natural gas sector regulation

In Portugal, Decree Law No. 29/2006, of February 15, and Decree Law No. 172/2006, of August 23, establish the framework of the National Electricity System and have been implemented and regulated through extensive administrative regulations. However, on December 2, 2021 the Council of Ministers approved the Decree Law establishing the organization and operation of the national electricity system, which, once enacted by the President of the Republic and published in the Portuguese Official State Gazette, will repeal and replace Decree Laws Nos. 29/2006 of February 15 and 172/2006 of August 23.

Decree-Law No. 62/2020, of August 28, establishes the framework of the National Gas System and has been implemented and regulated through extensive administrative regulations.

The regime for selling electricity for electric mobility is regulated by Decree Law No. 39/2010, of April 26, which stipulates that the activity may only be carried out by duly licensed operators of charging points.

The prices of electricity and natural gas supplies from market suppliers to their customers are freely agreed between the parties. However, the prices include a portion corresponding to the tariffs established for accessing the networks in accordance with the tariff regulations for the electricity and gas sectors (Regulation No. 785/2021 and Regulation No. 368/2021 of April 28), approved by ERSE.

The electricity tariffs for 2021 were approved by Directive No. 1/2021, of January 8. The gas tariffs for the period from October 1, 2021 to September 30, 2022 were approved by Directive No. 12/2021, of July 29.

The sale,which includes wholesale and retail activities, is freely carried out but it is contingent on registration by the Directorate General of Geology and Energy, in addition to compliance with other obligations, supply quality, and the provision of information to various competent administrative bodies, and verification of suppliers' good standing. In order to access the wholesale market scheme, the supplier must have the status of market agent, in accordance with the Regulation on Commercial Relations, and the performance in the wholesale markets is subject to the regime established in Regulation (EU) No. 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency.

Suppliers enter into contracts with the operators of the electricity transmission and distribution networks and with the operators of the transmission networks, storage and natural gas distribution infrastructure to access the networks in accordance with the Regulation on Commercial Relations in the electricity sector and the gas sector (Regulation No. 1129/2020, of December 30), the Regulation on Access to Networks and Interconnections in the electricity sector (Regulation No. 560/2014, of December 22, as amended by Regulation No. 620/2017, of December 18) and the Regulation on Access to Networks and Interconnections in the gas sector (Regulation No. 407/2021, of May 12) approved by ERSE,

The obligation to establish natural gas security reserves is incumbent on market suppliers and suppliers of last resort. The overall minimum security reserves are set by Ministerial Order (Portaria) of the Minister responsible for the energy sector and cannot be less than the quantities necessary to guarantee the consumption of protected customers and to meet the non-interruptible consumption needs of power plants under ordinary regime in the 12 months prior to the assessment month. In accordance with Ministerial Order (Portaria) No. 297/2011, of November 16, the minimum security reserves are: (i) 24 days of average consumption as of December 31, 2015; (ii) 30 days of average consumption as of December 31, 2020; and (iii) 35 days of average consumption as of December 31, 2025.

Electricity and natural gas supplies are classified as essential public services and, therefore, subject to the rules on essential public services established in Law No. 23/96, of July 26, which establishes various mechanisms to protect customers, such as the reporting and assistance obligations of suppliers, obligations to give minimum prior notice for supply interruptions, prohibition of minimum consumption and minimum payment periods, and the limitation periods on the right to receive the prices of the services.

The activity of selling electricity and natural gas is subject to compliance with the service quality requirements and standards established in the Regulation on Service Quality approved by ERSE, which establishes the obligation of compensating customers in the event of non-compliance.

The sale of electricity and natural gas is subject to ERSE's regulation and supervision and to the regime of penalties for the energy sector established in Law No. 9/2013, of January 28. As the regulator of the sector, ERSE is the administrative authority with competence regarding supervision and application of penalties as a result of unfair commercial practices, non-compliance in the provision of promotional, informational and support services to consumers and users through call centers, duties related to the complaints book and the rules applicable to guarantees for consumers in supply contracts of essential public services.

Venezuela

The Constitution of the Bolivarian Republic of Venezuela stipulates that the mines and hydrocarbon fields, irrespective of their nature, located on national territory, offshore under the sea bed, 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 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.

The Hydrocarbons Organic Law (HOL) regulates all matters regarding the exploration, operation, refining, industrialization, transport, storage, sale and conservation of hydrocarbons, including related refined products and the works required to perform these activities. Pursuant to the HOL, 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 HOL 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 transport 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 Exception and 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 State of Exception and Emergency was successively extended on several occasions, with the most recent, Presidential Decree No. 4,440 published on February 23, 2021 in Official (Extraordinary) Gazette No. 6,615, for sixty (60) days from its publication. The National 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. On May 20, 2019, the National Constituent Assembly published a Constituent Decree in Official Gazette No. 41,636 by which it extended the operation of the National Constituent Assembly at least until December 31, 2020. 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, 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 is still ongoing in the mixed companies, and the results of this process have yet to be disclosed.

In Official Gazette No. 41,825, dated February 19, 2020, Presidential Decree No. 4,131 was published, declaring an energy emergency in the hydrocarbon industry, in order to adopt the necessary measures to guarantee national energy security and protect the industry against the multi-faceted aggression, both external and internal, that is being executed to affect the country's oil production and sale. This Decree ordered the creation of the Alí Rodríguez Araque Presidential Commission for the Defense, Restructuring and Reorganization of the National Oil Industry, the purpose of which is the design, supervision, coordination and promotion of all the productive, legal, administrative, labor and marketing processes of the national public oil industry and its related activities, including PDVSA and CVP; this Commission may design and apply a set of special temporary measures aimed at increasing, improving and boosting the productive, administrative, financial and commercial management capacities of the national public oil industry and its related activities.

Subsequently, in Official Gazette No. 42,071, dated February 19, 2021, the President of the Republic, through Decree No. 4,436, extended by twelve (12) months the term established in Decree No. 4,268, dated August 19, 2020, which had declared the energy emergency of the hydrocarbon industry.

In the Official Gazette (Ext.) No. 6,583, dated October 12, 2020, the National Constituent Assembly published the so-called Anti-Blockade Constitutional Law for National Development and the Guarantee of Human Rights ("Anti-Blockade Law"), effective as of the date of its publication. The law aims to establish a regulatory framework that provides public authorities with legal tools to counteract, mitigate and reduce the harmful effects caused by the unilateral coercive measures and other restrictive or punitive measures imposed against Venezuela that were issued or handed down by other States or group of States, by international organizations or other foreign public or private entities, which affect human rights, infringe international law and affect the right to free and sovereign development of the Venezuelan people as enshrined in the Constitution.

The new legislation is public policy and of public interest, so its provisions will be applicable to all branches of government, and to natural and legal persons, public and private, throughout Venezuela.

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 US persons and US residents from performing 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 legal persons.

On August 2, 2018, the National 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 Extraordinary Official Journal No. 6,405 the so-called Exchange Agreement No. 1 ("the Exchange Agreement", pending regulation by BCV), the purpose of which is to establish the free convertibility of the currency nationwide.
On May 2, 2019, the Central Bank of Venezuela published Resolution No. 19-05-01 in Official Gazette No. 41,624, which authorized the so-called foreign exchange tables.

On November 19, 2019, the Presidency of the Republic published a decree instructing natural and legal persons, public and private, to register information and economic events expressed in accounting terms in sovereign cryptoassets, without prejudice to their registration in Bolivars.

The Central Bank of Venezuela issued a circular on March 13, 2020, allowing authorized banks to sell foreign currency in cash, in accordance with Exchange Agreement No. 1. The circular entered into force on March 13, 2020 and established that universal banks and exchange offices regulated by the Law on Banking Sector Institutions (*Ley de Instituciones del Sector Bancario*) and authorized as specialized intermediaries to carry out retail exchange operations are subject to its application.

The same circular establishes that the above-mentioned subjects must request authorization from the BCV's Foreign Exchange Operations Management to sell foreign currency in cash derived from retail exchange operations. These are operations to sell foreign currency for amounts equal to or less than €8,500, or its equivalent in another currency.

On August 6, 2021, the National Executive Branch issued Decree No. 4,553, published in Official Gazette No. 42,185 of this same date, which established a new monetary expression of the bolivar, effective as of October 1, 2021, meaning that any amount expressed in local currency prior to this date had to be converted to the new unit by dividing the amount by one million (1,000,000).

Subsequently, the Venezuelan Central Bank issued the Rules Governing the New Monetary Expression (Resolution No. 21-08-01), in Official Gazette No. 42,191 of August 16, 2021, to regulate aspects related to the new monetary scale of the bolivar established in Decree No. 4,553 of the National Executive.