KPMG Audit
A division of KPMG S.A.

ERNST & YOUNG Audit

This is a translation into English of the statutory auditors' report on the consolidated financial statements of the Company issued in French and it is provided solely for the convenience of English-speaking users.
This statutory auditors' report includes information required by European regulation and French law, such as information about the appointment of the statutory auditors or verification of the information concerning the Group presented in the management report and other documents provided to shareholders.
This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

TOTAL SE
(Previously TOTAL S.A.)
Year ended December 31, 2020

Statutory auditors' report on the consolidated financial statements

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Membre de la compagnie
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Commissaire aux Comptes
Membre de la compagnie
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TOTAL SE
(Previously TOTAL S.A.)
Year ended December 31, 2020

Statutory auditors' report on the consolidated financial statements

To the Annual General Meeting of TOTAL SE,

Opinion

In compliance with the engagement entrusted to us by your Annual General Meeting, we have audited the accompanying consolidated financial statements of TOTAL SE for the year ended December 31, 2020.

In our opinion, the consolidated financial statements give a true and fair view of the assets and liabilities and of the financial position of the Group as at December 31, 2020 and of the results of its operations for the year then ended in accordance with International Financial Reporting Standards as adopted by the European Union.

The audit opinion expressed above is consistent with our report to the Audit Committee.

Basis for Opinion

- **Audit Framework**

We conducted our audit in accordance with professional standards applicable in France. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our responsibilities under those standards are further described in the *Statutory Auditors' Responsibilities for the Audit of the Consolidated Financial Statements* section of our report.

- **Independence**

We conducted our audit engagement in compliance with independence requirements of the French Commercial Code *(Code de commerce)* and the French Code of Ethics *(Code de déontologie)* for statutory auditors for the period from January 1, 2020 to the date of our report and specifically we did not provide any prohibited non-audit services referred to in Article 5(1) of Regulation (EU) No 537/2014.

Justification of Assessments - Key Audit Matters

Due to the global crisis related to the Covid-19 pandemic, the financial statements of this period have been prepared and audited under specific conditions. Indeed, this crisis and the exceptional measures taken in the context of the state of sanitary emergency have had numerous consequences for companies, particularly on their operations and their financing, and have led to greater uncertainties on their future prospects. Those measures, such as travel restrictions and remote working, have also had an impact on the companies' internal organization and the performance of the audits.

It is in this complex and evolving context that, in accordance with the requirements of Articles L. 823-9 and R. 823-7 of the French Commercial Code *(Code de commerce)* relating to the justification of our assessments, we inform you of the key audit matters relating to risks of material misstatement that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period, as well as how we addressed those risks.

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 specific items of the consolidated financial statements.

■ Evaluation of the impairment of non-current assets of exploration and production activities of the Exploration & Production and Integrated Gas, Renewables and Power segments ("E&P and iGRP segments")

Risk identified	Our response
As discussed in Notes 7.1, 7.2, and 3 to the consolidated financial statements as of December 31, 2020, the non-current assets of exploration and production activities of the E&P and iGRP segments are mainly comprised of proved and unproved properties and work in progress of exploration and production activities (83,700 million US dollars), proved mineral interests (6,964 million US dollars), unproved mineral interests (15,510 million US dollars), and a portion of the 23,783 million US dollars balance of investments and loans in equity affiliates. The Group performs impairment tests on these assets as soon as any indication of impairment exists. As described in Note "Major judgments and accounting estimates" and Note 3.D "Asset impairment" to the consolidated financial statements, in 2020, in the context of the health crisis, the Group decided to revise the price assumptions used for its assets impairment tests. In addition, in line with its new Climate Ambition announced on May 5, 2020, which aims at carbon neutrality, the Group has reviewed its oil assets that can be qualified as "stranded", meaning with reserves beyond 20 years and high production costs, whose overall reserves may therefore not be produced by 2050. In 2020, asset impairments were	We obtained an understanding, evaluated the design, and tested the operating effectiveness of certain controls over the Group's processes to address the risks of material misstatement relating to the evaluation of the impairment of the E&P and iGRP segments' non-current assets of exploration and production activities. Our works included testing certain controls over the determination of the primary assumptions, used by management, underlying the recoverable amount, such as the estimates of the future price of hydrocarbons, the future operational costs, oil and gas reserves, and the after-tax discount rate. The procedures we performed on the impairment testing consisted mainly in: ► considering whether there was an indication of impairment for these assets, such as a severe decline of production, a new tax law enacted, the impact of new price assumptions, or the Group's new Climate Ambition announced on May 5, 2020; ► comparing the primary assumptions to those included in analyses, and to budgets and forecasts approved by the Executive Committee and the Board of Directors;

recorded for an amount of 8,646 million US dollars in operating income and 8,157 million US dollars in net income, Group share. The testing method is described in Note 3.D to the consolidated financial statements. The Group assesses the recoverable amount of the E&P and iGRP segments' non-current assets of exploration and production activities based on the cash-generating units (CGU) that include all the hydrocarbon sites and industrial assets involved in the production, processing and extraction of hydrocarbons. The recoverable amount is measured for each CGU, taking into account the economic business environment and the Group's operating plans. The primary assumptions used by the Group to measure the recoverable amount include the future price of hydrocarbons, the future operational costs, oil and gas reserves, and the after-tax discount rate. We identified the evaluation of the impairment of the E&P and iGRP segments' non-current assets of exploration and production activities as a key audit matter because management's evaluation of assumptions discussed above involved a high degree of judgment. Specifically, such management's evaluation required the consideration of evidence that corroborates the Group's assumptions and evidence that might contradict the assumptions, such as public industry information.	► comparing the hydrocarbon pricing scenarios, used by the Group as prepared by the Strategy and Climate division, to public industry information (International Energy Agency, brokers, and consultants); ► analyzing the future operational costs assumptions by calculating ratios over production and comparing them over time or to those of other similar assets; ► agreeing oil production profiles to the proved and probable hydrocarbon reserves prepared as part of the Group's internal procedures; ► re-calculating, with the assistance of valuation specialists included in our audit teams, the after-tax discount rate used by management, which we compared to the rates calculated by major market financial analysts; ► assessing the consistency of the tax rates used by management with the applicable tax schemes and the oil agreements in force; ► analyzing the information disclosed in Note 3.D "Asset impairment" to the consolidated financial statements. In particular, we analyzed the Company's sensitivity analysis on operating income and net income to variations of the hydrocarbon pricing scenarios, and compared it to the information disclosed in this Note.

■ Effect of estimated proved and proved developed hydrocarbon reserves on the depreciation of oil and gas assets of production activities of the Exploration & Production and Integrated Gas, Renewables and Power segments ("E&P and iGRP segments")

Risk identified	Our response
As discussed in the Note "Major judgments and accounting estimates" to the consolidated financial statements, the estimation of proved and proved developed hydrocarbon reserves is used by the Group in the "successful efforts" method to account for its oil and gas activities. Notes 7.1 and 7.2 to the consolidated financial statements outline that under such method, oil and gas assets are depreciated using the unit-of-production method. The unit-of-production method is based on either proved hydrocarbon reserves or proved developed hydrocarbon reserves. Those reserves are estimated by the Group's petroleum engineers in accordance with industry practice and Securities and Exchange Commission (SEC) regulations.	We obtained an understanding, evaluated the design, and tested the operating effectiveness of certain controls over the Group's processes to address the risks of material misstatement in the depreciation of oil and gas assets of production activities of the E&P and iGRP segments relating to the effect of estimated proved and proved developed hydrocarbon reserves. Our works included testing certain controls over management's determination and evaluation of deposit quantities and the modeling of contractual arrangements that determine the Group's share of proved and proved developed hydrocarbon reserves.

As described in Note 7.2 " Property, plant and equipment" to the consolidated financial statements, in the event that, due to the price effect on the hydrocarbon reserves evaluation, the unit-of-production depreciation method does not reflect properly the useful life of the asset, an alternative depreciation method is applied based on the reserves evaluated using the 12-month average price of the previous year. This is the case in 2020 where the unit-of-production depreciation method is applied to all assets in 2020 based on proved hydrocarbon reserves or proved developed hydrocarbon reserves measured using the 12-month average price for 2019. The primary assumptions used by the Group to estimate the proved and proved developed hydrocarbon reserves for purposes of the depreciation of oil and gas assets of production activities of the E&P and iGRP segments for the year ended December 31, 2020 include the following: geoscience and engineering data used to determine deposit quantities; contractual arrangements that determine the Group's share of the reserves; and the price. We identified the effect of estimated proved and proved developed hydrocarbon reserves on the depreciation of oil and gas assets of production activities of the E&P and iGRP segments as a key audit matter because management's evaluation of the Group's aforementioned assumptions involved a high degree of judgment due to the inherent uncertainty and nature of such assumptions.	The procedures we performed on the estimation of reserves by the Group consisted mainly in: ► assessing the qualifications and objectivity of the Group's petroleum engineers responsible for estimating reserves; ► analyzing the main changes in proved and proved developed hydrocarbon reserves compared to the prior fiscal year; ► comparing the 2020 forecasted production to 2020 actual production; ► inspecting evidence from contractual arrangements that determine the Group's share of the proved and proved developed hydrocarbon reserves through the expiration of the contracts; ► and evaluating the Group's assessment, where appropriate, of the reasons leading the Group to believe that the renewal of contractual arrangements is reasonably certain; ► evaluating the analysis performed by the Group to determine that using the 12-month average price of 2020 to estimate the proved and proved developed hydrocarbon reserves for purposes of the depreciation of oil and gas assets of production activities of the E&P and iGRP segments would not properly reflect the anticipated useful life of these assets; ► analyzing the Group's use of the 12-month average price for 2019 by comparing such average price to the Group's average long-term view of prices; ► assessing the Group's methodology used to estimate these proved and proved developed hydrocarbon reserves, considering SEC's regulations and the 12-month average price for 2019.

Specific verifications

We have also performed, in accordance with professional standards applicable in France, the specific verifications required by laws and regulations of the information relating to the Group given in the Board of Directors' management report.

We have no matters to report as to its fair presentation and its consistency with the consolidated financial statements.

We attest that the consolidated non-financial statement required by Article L. 225-102-1 of the French Commercial Code (*Code de commerce*) is included in the Group's management report, it being specified that, in accordance with the provisions of Article L. 823-10 of this Code, we have verified neither the fair presentation nor the consistency with the consolidated financial statements of the information contained therein and this information should be reported by an independent third party.

Report on Other Legal and Regulatory Requirements

Format of presentation of the consolidated financial statements intended to be included in the annual financial report

In accordance with Article 222-3, III of the AMF General Regulation, the Company's management informed us of its decision to postpone the presentation of the consolidated financial statements in compliance with the European single electronic format as defined in the European Delegated Regulation No 2019/815 of 17 December 2018 to years beginning on or after January 1, 2021. Therefore, this report does not include a conclusion on the compliance with this format of the presentation of the consolidated financial statements intended to be included in the annual financial report mentioned in Article L. 451-1-2, I of the French Monetary and Financial Code (*Code monétaire et financier*).

Appointment of the Statutory Auditors

We were appointed as statutory auditors of TOTAL SE by the annual general meeting held on May 13, 1998 for KPMG S.A. (replacing CCAS, appointed in 1986, a firm acquired by KPMG S.A. in 1997) and on May 14, 2004 for ERNST & YOUNG Audit.

As at December 31, 2020, KPMG S.A. was in its twenty-third year of total uninterrupted engagement and ERNST & YOUNG Audit in its seventeenth year.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the European Union and for such internal control as Management determines 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, Management is responsible for assessing the Company'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 it is expected to liquidate the Company or to cease operations.

The Audit Committee is responsible for monitoring the financial reporting process and the effectiveness of internal control and risks management systems and where applicable, its internal audit, regarding the accounting and financial reporting procedures.

The consolidated financial statements were approved by the Board of Directors.

Statutory Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Objectives and audit approach

Our role is to issue a report on the consolidated financial statements. Our objective is to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with professional standards 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 specified in Article L. 823-10-1 of the French Commercial Code (*Code de commerce*), our statutory audit does not include assurance on the viability of the Company or the quality of management of the affairs of the Company.

As part of an audit conducted in accordance with professional standards applicable in France, the statutory auditor exercises professional judgment throughout the audit and furthermore:

- Identifies and assesses the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, designs and performs audit procedures responsive to those risks, and obtains audit evidence considered to be sufficient and appropriate to provide a basis for his 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.

- Obtains 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 internal control.

- Evaluates the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by Management in the consolidated financial statements.

- Assesses the appropriateness of Management's 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 Company's ability to continue as a going concern. This assessment is based on the audit evidence obtained up to the date of his audit report. However, future events or conditions may cause the Company to cease to continue as a going concern. If the statutory auditor concludes that a material uncertainty exists, there is a requirement to draw attention in the audit report to the related disclosures in the consolidated financial statements or, if such disclosures are not provided or inadequate, to modify the opinion expressed therein.

- Evaluates the overall presentation of the consolidated financial statements and assesses whether these statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtains sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. The statutory auditor is responsible for the direction, supervision and performance of the audit of the consolidated financial statements and for the opinion expressed on these consolidated financial statements.

Report to the Audit Committee

We submit to the Audit Committee a report which includes in particular a description of the scope of the audit and the audit program implemented, as well as the results of our audit. We also report, if any, significant deficiencies in internal control regarding the accounting and financial reporting procedures that we have identified.

Our report to the Audit Committee includes the risks of material misstatement that, in our professional judgment, were of most significance in the audit of the consolidated financial statements of the current period and which are therefore the key audit matters that we are required to describe in this report.

We also provide the Audit Committee with the declaration provided for in Article 6 of Regulation (EU) No 537/2014, confirming our independence within the meaning of the rules applicable in France such as they are set in particular by Articles L. 822-10 to L. 822-14 of the French Commercial Code *(Code de commerce)* and in the French Code of Ethics *(code de déontologie)* for statutory auditors. Where appropriate, we discuss with the Audit Committee the risks that may reasonably be thought to bear on our independence, and the related safeguards.

Paris-La Défense, March 17, 2021

The Statutory Auditors
French original signed by

KPMG Audit *A Division of KPMG S.A.*		ERNST & YOUNG Audit	
Jacques-François Lethu *Partner*	Eric Jacquet *Partner*	Laurent Vitse *Partner*	Céline Eydieu-Boutté *Partner*

Consolidated statement of income

TOTAL

For the year ended December 31,

(M$)[a]		**2020**	**2019**	**2018**
Sales	*(Notes 3, 4, 5)*	**140,685**	**200,316**	**209,363**
Excise taxes	*(Notes 3 & 5)*	(20,981)	(24,067)	(25,257)
Revenues from sales	*(Notes 3 & 5)*	119,704	176,249	184,106
Purchases, net of inventory variation	*(Note 5)*	(77,486)	(116,221)	(125,816)
Other operating expenses	*(Note 5)*	(25,538)	(27,255)	(27,484)
Exploration costs	*(Note 5)*	(731)	(785)	(797)
Depreciation, depletion and impairment of tangible assets and mineral interests	*(Note 5)*	(22,264)	(15,731)	(13,992)
Other income	*(Note 6)*	2,237	1,163	1,838
Other expense	*(Note 6)*	(1,506)	(1,192)	(1,273)
Financial interest on debt		(2,147)	(2,333)	(1,933)
Financial income and expense from cash & cash equivalents		37	(19)	(188)
Cost of net debt	*(Note 15)*	(2,110)	(2,352)	(2,121)
Other financial income	*(Note 6)*	914	792	1,120
Other financial expense	*(Note 6)*	(690)	(764)	(685)
Net income (loss) from equity affiliates	*(Note 8)*	452	3,406	3,170
Income taxes	*(Note 11)*	(318)	(5,872)	(6,516)
Consolidated net income		**(7,336)**	**11,438**	**11,550**
Group share		(7,242)	11,267	11,446
Non-controlling interests		(94)	171	104
Earnings per share ($)		(2.90)	4.20	4.27
Fully-diluted earnings per share ($)		(2.90)	4.17	4.24

(a) Except for per share amounts.

Consolidated statement of comprehensive income

TOTAL

For the year ended December 31,

(M$)		2020	2019	2018
Consolidated net income		**(7,336)**	**11,438**	**11,550**
Other comprehensive income				
Actuarial gains and losses	*(Note 10)*	(212)	(192)	(12)
Change in fair value of investments in equity instruments	*(Note 8)*	533	142	-
Tax effect		65	53	13
Currency translation adjustment generated by the parent company	*(Note 9)*	7,541	(1,533)	(4,022)
Items not potentially reclassifiable to profit and loss		**7,927**	**(1,530)**	**(4,021)**
Currency translation adjustment	*(Note 9)*	(4,645)	740	1,113
Cash flow hedge	*(Notes 15 & 16)*	(313)	(599)	25
Variation of foreign currency basis spread	*(Note 15)*	28	1	(80)
Share of other comprehensive income of equity affiliates, net amount	*(Note 8)*	(1,831)	408	(540)
Other		(8)	(3)	(5)
Tax effect		72	202	14
Items potentially reclassifiable to profit and loss		**(6,697)**	**749**	**527**
Total other comprehensive income (net amount)		**1,230**	**(781)**	**(3,494)**
Comprehensive income		**(6,106)**	**10,657**	**8,056**
- Group share		*(6,312)*	*10,418*	*8,021*
- Non-controlling interests	*(Note 9)*	*206*	*239*	*35*

Consolidated balance sheet

TOTAL

As of December 31,

(M$)		2020	2019	2018
ASSETS				
Non-current assets				
Intangible assets, net	*(Notes 4 & 7)*	33,528	33,178	28,922
Property, plant and equipment, net	*(Notes 4 & 7)*	108,335	116,408	113,324
Equity affiliates: investments and loans	*(Note 8)*	27,976	27,122	23,444
Other investments	*(Note 8)*	2,007	1,778	1,421
Non-current financial assets	*(Note 15)*	4,781	912	680
Deferred income taxes	*(Note 11)*	7,016	6,216	6,663
Other non-current assets	*(Note 6)*	2,810	2,415	2,509
Total non-current assets		**186,453**	**188,029**	**176,963**
Current assets				
Inventories, net	*(Note 5)*	14,730	17,132	14,880
Accounts receivable, net	*(Note 5)*	14,068	18,488	17,270
Other current assets	*(Note 5)*	13,428	17,013	14,724
Current financial assets	*(Note 15)*	4,630	3,992	3,654
Cash and cash equivalents	*(Note 15)*	31,268	27,352	27,907
Assets classified as held for sale	*(Note 2)*	1,555	1,288	1,364
Total current assets		**79,679**	**85,265**	**79,799**
Total assets		**266,132**	**273,294**	**256,762**
LIABILITIES & SHAREHOLDERS' EQUITY				
Shareholders' equity				
Common shares		8,267	8,123	8,227
Paid-in surplus and retained earnings		107,078	121,170	120,569
Currency translation adjustment		(10,256)	(11,503)	(11,313)
Treasury shares		(1,387)	(1,012)	(1,843)
Total shareholders' equity - Group share	*(Note 9)*	**103,702**	**116,778**	**115,640**
Non-controlling interests		**2,383**	**2,527**	**2,474**
Total shareholders' equity		**106,085**	**119,305**	**118,114**
Non-current liabilities				
Deferred income taxes	*(Note 11)*	10,326	11,858	11,490
Employee benefits	*(Note 10)*	3,917	3,501	3,363
Provisions and other non-current liabilities	*(Note 12)*	20,925	20,613	21,432
Non-current financial debt	*(Note 15)*	60,203	47,773	40,129
Total non-current liabilities		**95,371**	**83,745**	**76,414**
Current liabilities				
Accounts payable		23,574	28,394	26,134
Other creditors and accrued liabilities	*(Note 5)*	22,465	25,749	22,246
Current borrowings	*(Note 15)*	17,099	14,819	13,306
Other current financial liabilities	*(Note 15)*	203	487	478
Liabilities directly associated with the assets classified as held for sale	*(Note 2)*	1,335	795	70
Total current liabilities		**64,676**	**70,244**	**62,234**
Total liabilities & shareholders' equity		**266,132**	**273,294**	**256,762**

Consolidated statement of cash flow

TOTAL

For the year ended December 31, (M$)		2020	2019	2018
CASH FLOW FROM OPERATING ACTIVITIES				
Consolidated net income		(7,336)	11,438	11,550
Depreciation, depletion, amortization and impairment	*(Note 5.3)*	22,861	16,401	14,584
Non-current liabilities, valuation allowances, and deferred taxes	*(Note 5.5)*	(1,782)	(58)	(887)
(Gains) losses on disposals of assets		(909)	(614)	(930)
Undistributed affiliates' equity earnings		948	(1,083)	(826)
(Increase) decrease in working capital	*(Note 5.5)*	1,869	(1,718)	769
Other changes, net		(848)	319	443
Cash flow from operating activities		**14,803**	**24,685**	**24,703**
CASH FLOW USED IN INVESTING ACTIVITIES				
Intangible assets and property, plant and equipment additions	*(Note 7)*	(10,764)	(11,810)	(17,080)
Acquisitions of subsidiaries, net of cash acquired		(966)	(4,748)	(3,379)
Investments in equity affiliates and other securities		(2,120)	(1,618)	(1,108)
Increase in non-current loans		(1,684)	(1,061)	(618)
Total expenditures		**(15,534)**	**(19,237)**	**(22,185)**
Proceeds from disposals of intangible assets and property, plant and equipment		740	527	3,716
Proceeds from disposals of subsidiaries, net of cash sold		282	158	12
Proceeds from disposals of non-current investments		578	349	1,444
Repayment of non-current loans		855	1,026	2,067
Total divestments		**2,455**	**2,060**	**7,239**
Cash flow used in investing activities		**(13,079)**	**(17,177)**	**(14,946)**
CASH FLOW FROM FINANCING ACTIVITIES				
Issuance (repayment) of shares:				
- Parent company shareholders		374	452	498
- Treasury shares		(611)	(2,810)	(4,328)
Dividends paid:				
- Parent company shareholders		(6,688)	(6,641)	(4,913)
- Non-controlling interests		(184)	(115)	(97)
Net issuance of perpetual subordinated notes	*(Note 9)*	331	-	-
Payments on perpetual subordinated notes	*(Note 9)*	(315)	(371)	(325)
Other transactions with non-controlling interests		(204)	10	(622)
Net issuance (repayment) of non-current debt	*(Note 15)*	15,800	8,131	649
Increase (decrease) in current borrowings		(6,501)	(5,829)	(3,990)
Increase (decrease) in current financial assets and liabilities		(604)	(536)	(797)
Cash flow from / (used in) financing activities		**1,398**	**(7,709)**	**(13,925)**
Net increase (decrease) in cash and cash equivalents		**3,122**	**(201)**	**(4,168)**
Effect of exchange rates		794	(354)	(1,110)
Cash and cash equivalents at the beginning of the period		27,352	27,907	33,185
Cash and cash equivalents at the end of the period	*(Note 15)*	**31,268**	**27,352**	**27,907**

Consolidated statement of changes in shareholders' equity

TOTAL

(M$)	Common shares issued		Paid-in surplus and retained earnings	Currency translation adjustment	Treasury shares		Shareholders' equity - Group share	Non-controlling interests	Total shareholders' equity
	Number	Amount			Number	Amount			
As of January 1, 2018	**2,528,989,616**	**7,882**	**112,040**	**(7,908)**	**(8,376,756)**	**(458)**	**111,556**	**2,481**	**114,037**
Net income 2018	-	-	11,446	-	-	-	11,446	104	11,550
Other comprehensive income	-	-	(20)	(3,405)	-	-	(3,425)	(69)	(3,494)
Comprehensive income	**-**	**-**	**11,426**	**(3,405)**	**-**	**-**	**8,021**	**35**	**8,056**
Dividend	-	-	(7,881)	-	-	-	(7,881)	(97)	(7,978)
Issuance of common shares	156,203,090	476	8,366	-	-	-	8,842	-	8,842
Purchase of treasury shares	-	-	-	-	(72,766,481)	(4,328)	(4,328)	-	(4,328)
Sale of treasury shares[(a)]	-	-	(240)	-	4,079,257	240	-	-	-
Share-based payments	-	-	294	-	-	-	294	-	294
Share cancellation	(44,590,699)	(131)	(2,572)	-	44,590,699	2,703	-	-	-
Net issuance (repayment) of perpetual subordinated notes	-	-	-	-	-	-	-	-	-
Payments on perpetual subordinated notes	-	-	(315)	-	-	-	(315)	-	(315)
Other operations with non-controlling interests	-	-	(517)	-	-	-	(517)	(99)	(616)
Other items	-	-	(32)	-	-	-	(32)	154	122
As of December 31, 2018	**2,640,602,007**	**8,227**	**120,569**	**(11,313)**	**(32,473,281)**	**(1,843)**	**115,640**	**2,474**	**118,114**
Net income 2019	-	-	11,267	-	-	-	11,267	171	11,438
Other comprehensive income	-	-	(659)	(190)	-	-	(849)	68	(781)
Comprehensive income	**-**	**-**	**10,608**	**(190)**	**-**	**-**	**10,418**	**239**	**10,657**
Dividend	-	-	(7,730)	-	-	-	(7,730)	(115)	(7,845)
Issuance of common shares	26,388,503	74	1,265	-	-	-	1,339	-	1,339
Purchase of treasury shares	-	-	-	-	(52,389,336)	(2,810)	(2,810)	-	(2,810)
Sale of treasury shares[(a)]	-	-	(219)	-	4,278,948	219	-	-	-
Share-based payments	-	-	207	-	-	-	207	-	207
Share cancellation	(65,109,435)	(178)	(3,244)	-	65,109,435	3,422	-	-	-
Net issuance (repayment) of perpetual subordinated notes	-	-	(4)	-	-	-	(4)	-	(4)
Payments on perpetual subordinated notes	-	-	(353)	-	-	-	(353)	-	(353)
Other operations with non-controlling interests	-	-	55	-	-	-	55	(42)	13
Other items	-	-	16	-	-	-	16	(29)	(13)
As of December 31, 2019	**2,601,881,075**	**8,123**	**121,170**	**(11,503)**	**(15,474,234)**	**(1,012)**	**116,778**	**2,527**	**119,305**
Net income 2020	-	-	(7,242)	-	-	-	(7,242)	(94)	(7,336)
Other comprehensive income	-	-	(321)	1,251	-	-	930	300	1,230
Comprehensive income	**-**	**-**	**(7,563)**	**1,251**	**-**	**-**	**(6,312)**	**206**	**(6,106)**
Dividend	-	-	(7,899)	-	-	-	(7,899)	(234)	(8,133)
Issuance of common shares	51,242,950	144	1,470	-	-	-	1,614	-	1,614
Purchase of treasury shares	-	-	-	-	(13,236,044)	(611)	(611)	-	(611)
Sale of treasury shares[(a)]	-	-	(236)	-	4,317,575	236	-	-	-
Share-based payments	-	-	188	-	-	-	188	-	188
Share cancellation	-	-	-	-	-	-	-	-	-
Net issuance (repayment) of perpetual subordinated notes	-	-	331	-	-	-	331	-	331
Payments on perpetual subordinated notes	-	-	(308)	-	-	-	(308)	-	(308)
Other operations with non-controlling interests	-	-	(61)	(4)	-	-	(65)	(117)	(182)
Other items	-	-	(14)	-	-	-	(14)	1	(13)
As of December 31, 2020	**2,653,124,025**	**8,267**	**107,078**	**(10,256)**	**(24,392,703)**	**(1,387)**	**103,702**	**2,383**	**106,085**

(a) Treasury shares related to the restricted stock grants.

Changes in equity are detailed in Note 9.

TOTAL

Notes to the Consolidated Financial Statements

On February 8, 2021, the Board of Directors established and authorized the publication of the Consolidated Financial Statements of TOTAL SE for the year ended December 31, 2020, which will be submitted for approval to the Shareholders' Meeting to be held on May 28, 2021.

Basis of preparation of the consolidated financial statements

The Consolidated Financial Statements of TOTAL SE and its subsidiaries (the Group) are presented in U.S. dollars and have been prepared on the basis of IFRS (International Financial Reporting Standards) as adopted by the European Union and IFRS as issued by the IASB (International Accounting Standard Board) as of December 31, 2020.

The accounting principles applied for the consolidated financial statements at December 31, 2020, were the same as those that were used for the financial statements at December 31, 2019, with the exception of new IFRS standards listed below which had not been early adopted by the Group.

As of January 1st, 2020, the Group early adopted the amendments to IFRS 7 and IFRS 9 relating to the interest rate benchmark reform phase II. In particular, these amendments allow to maintain the hedge accounting qualification of interest rate derivatives.

As part of this transition, the Group set up a working group in order to cover all aspects relating to the IBOR reform and is currently assessing the future impacts of these index changes.

As of December 31, 2020, except for the index change on the remuneration of cash collateral with clearing houses, whose impact is not material, no modification of the IBOR indices was applied on financial instruments used by the Group.

Major judgments and accounting estimates

The preparation of financial statements in accordance with IFRS for the closing as of December 31, 2020 requires the executive management to make estimates, assumptions and judgments that affect the information reported in the Consolidated Financial Statements and the Notes thereto.

These estimates, assumptions and judgments are based on historical experience and other factors believed to be reasonable at the date of preparation of the financial statements. They are reviewed on an on-going basis by management and therefore could be revised as circumstances change or as a result of new information.

Different estimates, assumptions and judgments could significantly affect the information reported, and actual results may differ from the amounts included in the Consolidated Financial Statements and the Notes thereto.

The following summary provides further information about the key estimates, assumptions and judgments that are involved in preparing, the Consolidated Financial Statements and the Notes thereto. It should be read in conjunction with the sections of the Notes mentioned in the summary.

The consolidated financial statements are impacted by the health and oil crises. The Group has taken into account the impact of this environment, particularly on the depreciation and impairment of oil and gas assets (see Note 3.D "Asset impairment" and Note 7.2 "Tangible assets").

- **Estimation of hydrocarbon reserves**

The estimation of oil and gas reserves is a key factor in the Successful Efforts method used by the Group to account for its oil and gas activities.

The Group's oil and gas reserves are estimated by the Group's petroleum engineers in accordance with industry standards and SEC (*U.S. Securities and Exchange Commission)* regulations.

Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geosciences and engineering data, can be determined with reasonable certainty to be recoverable (from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations), prior to the time at which contracts providing the rights to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation.

Proved oil and gas reserves are calculated using a 12-month average price determined as the unweighted arithmetic average of the first-day-of-the-month price for each month of the relevant year unless prices are defined by contractual arrangements, excluding escalations based upon future conditions. The Group reassesses its oil and gas reserves at least once a year on all its properties.

The Successful Efforts method and the mineral interests and property, plant and equipment of exploration and production are presented in Note 7 “Intangible and tangible assets”.

- **Impairment of property, plant and equipment, intangible assets and goodwill**

As part of the determination of the recoverable value of assets for impairment (IAS36), the estimates, assumptions and judgments mainly concern hydrocarbon prices scenarios, operating costs, production volumes and oil and gas proved and probable reserves, refining margins and product marketing conditions (mainly petroleum, petrochemical and chemical products as well as renewable industry products). The estimates and assumptions used by the executive management are determined in specialized internal departments in light of economic conditions and external expert analysis. The discount rate is reviewed annually.

In 2020, the Group decided to revise the price assumptions used for its assets impairment tests. Based on these new assumptions, asset impairments were recorded during the period. In line with its new Climate Ambition announced on May 5, 2020, which aims at carbon neutrality, the Group has reviewed its oil assets that can be qualified as “stranded”, and therefore has decided to impair its oil sands assets in Canada. These impairments and revised assumptions are presented in Note 3.D “Asset impairment”.

Impairment of assets and the method applied are described in Note 3 "Business segment information".

- **Employee benefits**

The benefit obligations and plan assets can be subject to significant volatility due in part to changes in market values and actuarial assumptions. These assumptions vary between different pension plans and thus take into account local conditions. They are determined following a formal process involving expertise and Group internal judgments, in financial and actuarial terms, and also in consultation with actuaries and independent experts.

The assumptions for each plan are reviewed annually and adjusted if necessary to reflect changes from the experience and actuarial advice. The discount rate is reviewed quarterly.

Payroll, staff and employee benefits obligations and the method applied are described in Note 10 “Payroll, staff and employee benefits obligations”.

- **Asset retirement obligations**

Asset retirement obligations, which result from a legal or constructive obligation, are recognized based on a reasonable estimate in the period in which the obligation arises.

This estimate is based on information available in terms of costs and work program. It is regularly reviewed to take into account the changes in laws and regulations, the estimates of reserves and production, the analysis of site conditions and technologies.

The discount rate is reviewed annually.

Asset retirement obligations and the method used are described in Note 12 "Provisions and other non-current liabilities".

- **Income Taxes**

A tax liability is recognized when in application of a tax regulation, a future payment is considered probable and can be reasonably estimated. The exercise of judgment is required to assess the impact of new events on the amount of the liability.

Deferred tax assets are recognized in the accounts to the extent that their recovery is considered probable. The amount of these assets is determined after taking into account deferred tax liabilities with comparable maturity, arising from the same entities and tax regimes. It takes into account existing taxable profits and future taxable profits which estimation is inherently uncertain and subject to change over time. The exercise of judgment is required to assess the impact of new events on the value of these assets and including changes in estimates of future taxable profits and the deadlines for their use.

In addition, these tax positions may depend on interpretations of tax laws and regulations in the countries where the Group operates. These interpretations may have uncertain nature. Depending on the circumstances, they are final only after negotiations or resolution of disputes with authorities that can last several years.

Incomes taxes and the accounting methods are described in Note 11 “Income taxes”.

Judgments in case of transactions not addressed by any accounting standard or interpretation

Furthermore, when the accounting treatment of a specific transaction is not addressed by any accounting standard or interpretation, the management applies its judgment to define and apply accounting policies that provide information consistent with the general IFRS concepts: faithful representation, relevance and materiality.

1) General accounting policies

1.1) Accounting policies

A) Principles of consolidation

Entities that are directly controlled by the parent company or indirectly controlled by other consolidated entities are fully consolidated.

Investments in joint ventures are consolidated under the equity method. The Group accounts for joint operations by recognizing its share of assets, liabilities, income and expenses.

Investments in associates, in which the Group has significant influence, are accounted for by the equity method. Significant influence is presumed when the Group holds, directly or indirectly (e.g. through subsidiaries), 20% or more of the voting rights. Companies in which ownership interest is less than 20%, but over which the Company is deemed to exercise significant influence, are also accounted for by the equity method.

All internal balances, transactions and income are eliminated.

B) Business combinations

Business combinations are accounted for using the acquisition method. This method requires the recognition of the acquired identifiable assets and assumed liabilities of the companies acquired by the Group at their fair value.

The purchase accounting of the acquisition is finalized up to a maximum of one year from the acquisition date.

The acquirer shall recognize goodwill at the acquisition date, being the excess of:

- The consideration transferred, the amount of non-controlling interests and, in business combinations achieved in stages, the fair value at the acquisition date of the investment previously held in the acquired company;
- Over the fair value at the acquisition date of acquired identifiable assets and assumed liabilities.

If the consideration transferred is lower than the fair value of acquired identifiable assets and assumed liabilities, an additional analysis is performed on the identification and valuation of the identifiable elements of the assets and liabilities. After having completed such additional analysis, any negative goodwill is recorded as income.

Non-controlling interests are measured either at their proportionate share in the net assets of the acquired company or at fair value.

In transactions with non-controlling interests, the difference between the price paid (received) and the book value of non-controlling interests acquired (sold) is recognized directly in equity.

C) Foreign currency translation

The presentation currency of the Group's Consolidated Financial Statements is the US dollar. However, the functional currency of the parent company is the euro. The resulting currency translation adjustments are presented on the line "currency translation adjustment generated by the parent company" of the consolidated statement of comprehensive income, within "items not potentially reclassifiable to profit and loss". In the balance sheet, they are recorded in "currency translation adjustment".

The financial statements of subsidiaries are prepared in the currency that most clearly reflects their business environment. This is referred to as their functional currency.

Since 1st July 2018, Argentina is considered to be hyperinflationary. IAS 29 “Financial Reporting in Hyperinflationary Economies” is applicable to entities whose functional currency is the Argentine peso. The functional currency of the Argentine Exploration & Production subsidiary is the US dollar, therefore IAS 29 has no incidence on the Group accounts. Net asset of the other business segments is not significant.

(i) Monetary transactions

Transactions denominated in currencies other than the functional currency of the entity are translated at the exchange rate on the transaction date. At each balance sheet date, monetary assets and liabilities are translated at the closing rate and the resulting exchange differences are recognized in the statement of income.

(ii) Translation of financial statements

Assets and liabilities of entities denominated in currencies other than dollar are translated into dollar on the basis of the exchange rates at the end of the period. The income and cash flow statements are translated using the average exchange rates for the period. Foreign exchange differences resulting from such translations are either recorded in shareholders’ equity under “Currency translation adjustments” (for the Group share) or under “Non-controlling interests” (for the share of non-controlling interests) as deemed appropriate.

1.2) Significant accounting policies applicable in the future

The expected impact of the standards or interpretations published respectively by the International Accounting Standards Board (IASB) and the International Financial Reporting Standards Interpretations Committee (IFRS IC) which were not yet in effect at December 31, 2020, is not material.

2) Changes in the Group structure

2.1) Main acquisitions and divestments

In 2020, the main changes in the Group structure were as follows:

- **Integrated Gas, Renewables & Power**
  - On February 28, 2020, TOTAL finalized the acquisition of a 37.4% interest in Adani Gas Limited, one of the four main distributors of city gas in India. To acquire 37.4% of equity shares of Adani Gas Limited, TOTAL launched a tender offer to public shareholders on October 14, 2019 that ended on January 14, 2020, and then acquired the remaining shares from Adani on February 27 and 28, 2020.
  - On December 1, 2020, TOTAL finalized the acquisition from Energías de Portugal of its activity of gas and electricity supply to residential customers in Spain, which represents a portfolio of 2 million customers, as well as two gas-fired combined cycle power plants which represent an electricity generation capacity of nearly 850 megawatts.

- **Exploration & Production**

- On March 31, 2020, TOTAL finalized the sale of its subsidiary Total E&P Deep Offshore Borneo BV which holds an 86.95% interest in Block CA1, located 100 kilometers off the coast of Brunei, to Shell.

- On August 6, 2020, TOTAL closed the sale of UK North Sea non-core assets to NEO Energy.

- In November, 2020, TOTAL finalized the acquisition of 33.3% interest of Tullow's interests in the Uganda Lake Albert development project including the East African Crude Oil Pipeline.

2.2) Major business combinations

Accounting policies

In accordance with IFRS 3 "Business combinations", TOTAL is assessing the fair value of identifiable acquired assets, liabilities and contingent liabilities on the basis of available information. This assessment will be finalised within 12 months following the acquisition date.

- **Integrated Gas, Renewables & Power**

EDP Comercializadora Espagne

- On December 1, 2020, TOTAL finalized the acquisition from Energías de Portugal of its activity of gas and electricity supply to residential customers in Spain as well as two gas-fired combined cycle power plants. This transaction was recorded for a purchase price of $578 million and a preliminary goodwill of $345 million was recognized in the consolidated financial statements at December 31, 2020.

  In the consolidated financial statements as at December 31, 2020, the fair value of the acquired identifiable assets and of the liabilities assumed amounts to $233 million.

  The preliminary purchase price allocation is shown below:

(M$)	At the acquisition date
Goodwill	345
Intangible assets	56
Tangible assets	235
Other assets and liabilities	(58)
Debt net of cash acquired	-
Fair value of consideration	**578**

2.3) Divestment projects

Accounting policies

Pursuant to IFRS 5 "Non-current assets held for sale and discontinued operations", assets and liabilities of affiliates that are held for sale are presented separately on the face of the balance sheet. Depreciation of assets ceases from the date of classification in "Non-current assets held for sale".

- **Exploration & Production**

- On July 30, 2020, TOTAL announced that its 58% owned affiliate Total Gabon has signed an agreement with Perenco to divest its interests in seven mature non-operated offshore fields, along with its interests and operatorship in the Cap Lopez oil terminal. The transaction remains subject to approval by the Gabonese authorities.

As of December 31, 2020, the assets and liabilities have been respectively classified in the consolidated balance sheet as “assets classified as held for sale” for an amount of $391 million and “liabilities classified as held for sale” for an amount of $150 million. These assets mainly include tangible assets.

- **Refining & Chemicals**

- On July 27, 2020, TOTAL signed an agreement to sell the Lindsey refinery and its associated logistic assets, as well as all the related rights and obligations, to the Prax Group.

  As of December 31, 2020, the assets and liabilities have been respectively classified in the consolidated balance sheet as “assets classified as held for sale” for an amount of $154 million and “liabilities classified as held for sale” for an amount of $238 million.

3) Business segment information

Description of the business segments

Financial information by business segment is reported in accordance with the internal reporting system and shows internal segment information that is used to manage and measure the performance of TOTAL and which is reviewed by the main operational decision-making body of the Group, namely the Executive Committee.

The operational profit and assets are broken down by business segment prior to the consolidation and inter-segment adjustments.

Sales prices between business segments approximate market prices.

The profitable growth in the gas and low carbon electricity integrated value chains is one of the key axes of TOTAL's strategy. In order to give more visibility to these businesses, a new reporting structure for the business segments' financial information has been put in place, effective January 1, 2019.

The organization of the Group's activities is structured around the four followings segments:

- An Exploration & Production segment;
- An Integrated Gas, Renewables & Power segment comprising integrated gas (including LNG) and low carbon electricity businesses. It includes the upstream and midstream LNG activity that was previously reported in the Exploration & Production segment;
- A Refining & Chemicals segment constituting a major industrial hub comprising the activities of refining, petrochemicals and specialty chemicals. This segment also includes the activities of oil Supply, Trading and marine Shipping;
- A Marketing & Services segment including the global activities of supply and marketing in the field of petroleum products;

In addition, the Corporate segment includes holdings operating and financial activities.

Certain figures for the year 2018 have been restated in order to reflect the new organization.

Definition of the indicators

(i) Operating income (measure used to evaluate operating performance)

Revenue from sales after deducting cost of goods sold and inventory variations, other operating expenses, exploration expenses and depreciation, depletion, and impairment of tangible assets and mineral interests.

Operating income excludes the amortization of intangible assets other than mineral interests, currency translation adjustments and gains or losses on the disposal of assets.

(ii) Net operating income (measure used to evaluate the return on capital employed)

Operating income after taking into account the amortization of intangible assets other than mineral interests, currency translation adjustments, gains or losses on the disposal of assets, as well as all other income and expenses related to capital employed (dividends from non-consolidated companies, income from equity affiliates, capitalized interest expenses…), and after income taxes applicable to the above.

The only income and expense not included in net operating income but included in net income Group share are interest expenses related to net financial debt, after applicable income taxes (net cost of net debt) and non-controlling interests.

(iii) Adjusted income

Operating income, net operating income, or net income excluding the effect of adjustment items described below.

(iv) Capital employed

Non-current assets and working capital, at replacement cost, net of deferred income taxes and non-current liabilities.

(v) ROACE (Return on Average Capital Employed)

Ratio of adjusted net operating income to average capital employed between the beginning and the end of the period.

Performance indicators excluding the adjustment items, such as adjusted incomes and ROACE are meant to facilitate the analysis of the financial performance and the comparison of income between periods.

Adjustment items

Adjustment items include:

(i) Special items

Due to their unusual nature or particular significance, certain transactions qualified as "special items" are excluded from the business segment figures. In general, special items relate to transactions that are significant, infrequent or unusual. However, in certain instances, transactions such as restructuring costs or assets disposals, which are not considered to be representative of the normal course of business, may be qualified as special items although they may have occurred within prior years or are likely to occur again within the coming years.

(ii) The inventory valuation effect

The adjusted results of the Refining & Chemicals and Marketing & Services segments are presented according to the replacement cost method. This method is used to assess the segments' performance and facilitate the comparability of the segments' performance with those of its main competitors.

In the replacement cost method, which approximates the LIFO (Last-In, First-Out) method, the variation of inventory values in the statement of income is, depending on the nature of the inventory, determined using either the month-end prices differential between one period and another or the average prices of the period rather than the historical value. The inventory valuation effect is the difference between the results according to the FIFO (First-In, First-Out) and the replacement cost methods.

(iii) Effect of changes in fair value

The effect of changes in fair value presented as adjustment items reflects for certain transactions differences between the internal measure of performance used by TOTAL's executive committee and the accounting for these transactions under IFRS.

IFRS requires that trading inventories be recorded at their fair value using period end spot prices. In order to best reflect the management of economic exposure through derivative transactions, internal indicators used to measure performance include valuations of trading inventories based on forward prices.

TOTAL, in its trading activities, enters into storage contracts, which future effects are recorded at fair value in the Group's internal economic performance. IFRS precludes recognition of this fair value effect.

Furthermore, TOTAL enters into derivative instruments to risk manage certain operational contracts or assets. Under IFRS, these derivatives are recorded at fair value while the underlying operational transactions are recorded as they occur. Internal indicators defer the fair value on derivatives to match with the transaction occurrence.

The adjusted results (adjusted operating income, adjusted net operating income, adjusted net income) are defined as replacement cost results, adjusted for special items and the effect of changes in fair value.

A) Information by business segment

For the year ended December 31, 2020 (M$)	**Exploration & Production**	**Integrated Gas, Renewables & Power**	**Refining & Chemicals**	**Marketing & Services**	**Corporate**	**Intercompany**	**Total**
Non-Group sales	4,973	15,629	56,615	63,451	17	-	140,685
Intersegment sales	18,483	2,003	17,378	357	223	(38,444)	-
Excise taxes	-	-	(2,405)	(18,576)	-	-	(20,981)
Revenues from sales	**23,456**	**17,632**	**71,588**	**45,232**	**240**	**(38,444)**	**119,704**
Operating expenses	(11,972)	(15,847)	(70,524)	(42,807)	(1,049)	38,444	(103,755)
Depreciation, depletion and impairment of tangible assets and mineral interests	(16,998)	(2,312)	(1,878)	(984)	(92)	-	(22,264)
Operating income	**(5,514)**	**(527)**	**(814)**	**1,441**	**(901)**	**-**	**(6,315)**
Net income (loss) from equity affiliates and other items	697	794	(393)	37	272	-	1,407
Tax on net operating income	(208)	71	59	(515)	(67)	-	(660)
Net operating income	**(5,025)**	**338**	**(1,148)**	**963**	**(696)**	**-**	**(5,568)**
Net cost of net debt							(1,768)
Non-controlling interests							94
Net income - group share							**(7,242)**

For the year ended December 31, 2020 (adjustments)[(a)] (M$)	**Exploration & Production**	**Integrated Gas, Renewables & Power**	**Refining & Chemicals**	**Marketing & Services**	**Corporate**	**Intercompany**	**Total**
Non-Group sales	-	20	-	-	-	-	20
Intersegment sales	-	-	-	-	-	-	-
Excise taxes	-	-	-	-	-	-	-
Revenues from sales	**-**	**20**	**-**	**-**	**-**	**-**	**20**
Operating expenses	(137)	(423)	(1,552)	(330)	(60)	-	(2,502)
Depreciation, depletion and impairment of tangible assets and mineral interests	(7,693)	(953)	(306)	-	-	-	(8,952)
Operating income[(b)]	**(7,830)**	**(1,356)**	**(1,858)**	**(330)**	**(60)**	**-**	**(11,434)**
Net income (loss) from equity affiliates and other items	54	(382)	(677)	(24)	107	-	(922)
Tax on net operating income	388	298	348	93	(145)	-	982
Net operating income[(b)]	**(7,388)**	**(1,440)**	**(2,187)**	**(261)**	**(98)**	**-**	**(11,374)**
Net cost of net debt							(29)
Non-controlling interests							102
Net income - group share							**(11,301)**

[(a)] Adjustments include special items, inventory valuation effect and the effect of changes in fair value.

[(b)] Of which inventory valuation effect

On operating income	-	-	(1,244)	(196)	-
On net operating income	-	-	(1,165)	(137)	-

For the year ended December 31, 2020 (adjusted) (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
Non-Group sales	4,973	15,609	56,615	63,451	17	-	140,665
Intersegment sales	18,483	2,003	17,378	357	223	(38,444)	-
Excise taxes	-	-	(2,405)	(18,576)	-	-	(20,981)
Revenues from sales	**23,456**	**17,612**	**71,588**	**45,232**	**240**	**(38,444)**	**119,684**
Operating expenses	(11,835)	(15,424)	(68,972)	(42,477)	(989)	38,444	(101,253)
Depreciation, depletion and impairment of tangible assets and mineral interests	(9,305)	(1,359)	(1,572)	(984)	(92)	-	(13,312)
Adjusted operating income	**2,316**	**829**	**1,044**	**1,771**	**(841)**	**-**	**5,119**
Net income (loss) from equity affiliates and other items	643	1,176	284	61	165	-	2,329
Tax on net operating income	(596)	(227)	(289)	(608)	78	-	(1,642)
Adjusted net operating income	**2,363**	**1,778**	**1,039**	**1,224**	**(598)**	**-**	**5,806**
Net cost of net debt							(1,739)
Non-controlling interests							(8)
Adjusted net income - group share							**4,059**

For the year ended December 31, 2020 (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
Total expenditures	6,782	6,230	1,325	1,052	145		15,534
Total divestments	819	1,152	149	158	177		2,455
Cash flow from operating activities	9,922	2,129	2,438	2,101	(1,787)		14,803
Balance sheet as of December 31, 2020							
Property, plant and equipment, intangible assets, net	89,207	30,704	12,486	8,734	732		141,863
Investments & loans in equity affiliates	7,328	16,455	3,638	555	-		27,976
Other non-current assets	5,093	3,647	791	1,260	1,042		11,833
Working capital	1,968	(1,004)	(264)	(43)	(4,470)		(3,813)
Provisions and other non-current liabilities	(24,909)	(4,566)	(4,658)	(1,641)	606		(35,168)
Assets and liabilities classified as held for sale	241	375	(83)	-	-		533
Capital Employed (Balance sheet)	**78,928**	**45,611**	**11,910**	**8,865**	**(2,090)**		**143,224**
Less inventory valuation effect	-	-	(535)	(72)	-		(607)
Capital Employed (Business segment information)	**78,928**	**45,611**	**11,375**	**8,793**	**(2,090)**		**142,617**
ROACE as a percentage	**3%**	**4%**	**9%**	**14%**			**4%**

For the year ended December 31, 2019 (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
Non-Group sales	7,261	18,167	87,598	87,280	10	-	200,316
Intersegment sales	31,329	2,825	32,390	659	125	(67,328)	-
Excise taxes	-	-	(3,015)	(21,052)	-	-	(24,067)
Revenues from sales	**38,590**	**20,992**	**116,973**	**66,887**	**135**	**(67,328)**	**176,249**
Operating expenses	(16,389)	(18,316)	(112,104)	(63,855)	(925)	67,328	(144,261)
Depreciation, depletion and impairment of tangible assets and mineral interests	(11,659)	(1,492)	(1,527)	(980)	(73)	-	(15,731)
Operating income	**10,542**	**1,184**	**3,342**	**2,052**	**(863)**	**-**	**16,257**
Net income (loss) from equity affiliates and other items	610	2,330	322	101	42	-	3,405
Tax on net operating income	(4,572)	(741)	(470)	(598)	155	-	(6,226)
Net operating income	**6,580**	**2,773**	**3,194**	**1,555**	**(666)**	**-**	**13,436**
Net cost of net debt							(1,998)
Non-controlling interests							(171)
Net income - group share							**11,267**

For the year ended December 31, 2019 (adjustments)[(a)] (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
Non-Group sales	-	(64)	-	-	-	-	(64)
Intersegment sales	-	-	-	-	-	-	-
Excise taxes	-	-	-	-	-	-	-
Revenues from sales	**-**	**(64)**	**-**	**-**	**-**	**-**	**(64)**
Operating expenses	(145)	(240)	397	(40)	(112)	-	(140)
Depreciation, depletion and impairment of tangible assets and mineral interests	(721)	(156)	(41)	(2)	-	-	(920)
Operating income[(b)]	**(866)**	**(460)**	**356**	**(42)**	**(112)**	**-**	**(1,124)**
Net income (loss) from equity affiliates and other items	(112)	974	(83)	(83)	-	-	696
Tax on net operating income	49	(130)	(82)	27	(73)	-	(209)
Net operating income[(b)]	**(929)**	**384**	**191**	**(98)**	**(185)**	**-**	**(637)**
Net cost of net debt							(15)
Non-controlling interests							91
Net income - group share							**(561)**

(a) Adjustments include special items, inventory valuation effect and the effect of changes in fair value.

(b) Of which inventory valuation effect

On operating income	-	-	477	(31)	-
On net operating income	-	-	371	(14)	-

For the year ended December 31, 2019 (adjusted) (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
Non-Group sales	7,261	18,231	87,598	87,280	10	-	200,380
Intersegment sales	31,329	2,825	32,390	659	125	(67,328)	-
Excise taxes	-	-	(3,015)	(21,052)	-	-	(24,067)
Revenues from sales	**38,590**	**21,056**	**116,973**	**66,887**	**135**	**(67,328)**	**176,313**
Operating expenses	(16,244)	(18,076)	(112,501)	(63,815)	(813)	67,328	(144,121)
Depreciation, depletion and impairment of tangible assets and mineral interests	(10,938)	(1,336)	(1,486)	(978)	(73)	-	(14,811)
Adjusted operating income	**11,408**	**1,644**	**2,986**	**2,094**	**(751)**	**-**	**17,381**
Net income (loss) from equity affiliates and other items	722	1,356	405	184	42	-	2,709
Tax on net operating income	(4,621)	(611)	(388)	(625)	228	-	(6,017)
Adjusted net operating income	**7,509**	**2,389**	**3,003**	**1,653**	**(481)**	**-**	**14,073**
Net cost of net debt							(1,983)
Non-controlling interests							(262)
Ajusted net income - group share							**11,828**

For the year ended December 31, 2019 (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
Total expenditures	8,992	7,053	1,698	1,374	120		19,237
Total divestments	368	1,108	322	249	13		2,060
Cash flow from operating activities	16,917	3,461	3,837	2,604	(2,134)		24,685
Balance sheet as of December 31, 2019							
Property, plant and equipment, intangible assets, net	98,894	29,597	12,196	8,316	583		149,586
Investments & loans in equity affiliates	7,631	15,271	3,787	433	-		27,122
Other non-current assets	4,484	2,993	744	1,179	1,009		10,409
Working capital	2,617	(1,192)	796	178	(3,909)		(1,510)
Provisions and other non-current liabilities	(25,208)	(5,488)	(3,898)	(1,531)	153		(35,972)
Assets and liabilities classified as held for sale	426	368	-	-	-		794
Capital Employed (Balance sheet)	**88,844**	**41,549**	**13,625**	**8,575**	**(2,164)**		**150,429**
Less inventory valuation effect	-	-	(1,397)	(204)	-		(1,601)
Capital Employed (Business segment information)	**88,844**	**41,549**	**12,228**	**8,371**	**(2,164)**		**148,828**
ROACE as a percentage	**8%**	**6%**	**26%**	**22%**			**10%**

For the year ended December 31, 2018 (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
Non-Group sales	9,889	17,236	92,025	90,206	7	-	209,363
Intersegment sales	30,337	2,198	35,462	979	64	(69,040)	-
Excise taxes	-	-	(3,359)	(21,898)	-	-	(25,257)
Revenues from sales	**40,226**	**19,434**	**124,128**	**69,287**	**71**	**(69,040)**	**184,106**
Operating expenses	(17,532)	(17,679)	(120,393)	(66,737)	(796)	69,040	(154,097)
Depreciation, depletion and impairment of tangible assets and mineral interests	(10,192)	(1,827)	(1,222)	(709)	(42)	-	(13,992)
Operating income	**12,502**	**(72)**	**2,513**	**1,841**	**(767)**	**-**	**16,017**
Net income (loss) from equity affiliates and other items	1,365	1,639	782	307	77	-	4,170
Tax on net operating income	(5,770)	(471)	(445)	(532)	375	-	(6,843)
Net operating income	**8,097**	**1,096**	**2,850**	**1,616**	**(315)**	**-**	**13,344**
Net cost of net debt							(1,794)
Non-controlling interests							(104)
Net income - group share							**11,446**

For the year ended December 31, 2018 (adjustments)[(a)] (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
Non-Group sales	-	56	-	-	-	-	56
Intersegment sales	-	-	-	-	-	-	-
Excise taxes	-	-	-	-	-	-	-
Revenues from sales	**-**	**56**	**-**	**-**	**-**	**-**	**56**
Operating expenses	(199)	(237)	(616)	(45)	(9)	-	(1,106)
Depreciation, depletion and impairment of tangible assets and mineral interests	(707)	(1,065)	(2)	-	-	-	(1,774)
Operating income[(b)]	**(906)**	**(1,246)**	**(618)**	**(45)**	**(9)**	**-**	**(2,824)**
Net income (loss) from equity affiliates and other items	(128)	(247)	(116)	(5)	-	-	(496)
Tax on net operating income	584	170	205	14	-	-	973
Net operating income[(b)]	**(450)**	**(1,323)**	**(529)**	**(36)**	**(9)**	**-**	**(2,347)**
Net cost of net debt							(67)
Non-controlling interests							301
Net income - group share							**(2,113)**

(a) Adjustments include special items, inventory valuation effect and the effect of changes in fair value.

(b) Of which inventory valuation effect

On operating income	-	-	*(589)*	*(6)*	-
On net operating income	-	-	*(413)*	*(5)*	-

For the year ended December 31, 2018 (adjusted) (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
Non-Group sales	9,889	17,180	92,025	90,206	7	-	209,307
Intersegment sales	30,337	2,198	35,462	979	64	(69,040)	-
Excise taxes	-	-	(3,359)	(21,898)	-	-	(25,257)
Revenues from sales	**40,226**	**19,378**	**124,128**	**69,287**	**71**	**(69,040)**	**184,050**
Operating expenses	(17,333)	(17,442)	(119,777)	(66,692)	(787)	69,040	(152,991)
Depreciation, depletion and impairment of tangible assets and mineral interests	(9,485)	(762)	(1,220)	(709)	(42)	-	(12,218)
Adjusted operating income	**13,408**	**1,174**	**3,131**	**1,886**	**(758)**	**-**	**18,841**
Net income (loss) from equity affiliates and other items	1,493	1,886	898	312	77	-	4,666
Tax on net operating income	(6,354)	(641)	(650)	(546)	375	-	(7,816)
Adjusted net operating income	**8,547**	**2,419**	**3,379**	**1,652**	**(306)**	**-**	**15,691**
Net cost of net debt							(1,727)
Non-controlling interests							(405)
Adjusted net income - group share							**13,559**

For the year ended December 31, 2018 (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
Total expenditures	13,789	5,032	1,781	1,458	125		22,185
Total divestments	3,674	2,209	919	428	9		7,239
Cash flow from operating activities	18,537	596	4,308	2,759	(1,497)		24,703
Balance sheet as of December 31, 2018							
Property, plant and equipment, intangible assets, net	100,997	24,023	10,493	6,343	390		142,246
Investments & loans in equity affiliates	6,754	12,349	3,910	431	-		23,444
Other non-current assets	4,780	3,114	663	1,155	881		10,593
Working capital	1,911	420	32	194	(4,064)		(1,507)
Provisions and other non-current liabilities	(25,042)	(6,288)	(3,615)	(1,465)	125		(36,285)
Assets and liabilities classified as held for sale	-	1,128	151	-	-		1,279
Capital Employed (Balance sheet)	**89,400**	**34,746**	**11,634**	**6,658**	**(2,668)**		**139,770**
Less inventory valuation effect	-	-	(1,035)	(216)	-		(1,251)
Capital Employed (Business segment information)	**89,400**	**34,746**	**10,599**	**6,442**	**(2,668)**		**138,519**
ROACE as a percentage	**10%**	**7%**	**31%**	**25%**			**12%**

B) Reconciliation of the information by business segment with Consolidated Financial Statements

The table below presents the impact of adjustment items on the consolidated statement of income:

For the year ended December 31, 2020 (M$)	**Adjusted**	**Adjustments[(a)]**	**Consolidated statement of income**
Sales	**140,665**	**20**	**140,685**
Excise taxes	(20,981)	-	(20,981)
Revenues from sales	119,684	20	119,704
Purchases, net of inventory variation	(75,672)	(1,814)	(77,486)
Other operating expenses	(24,850)	(688)	(25,538)
Exploration costs	(731)	-	(731)
Depreciation, depletion and impairment of tangible assets and mineral interests	(13,312)	(8,952)	(22,264)
Other income	1,405	832	2,237
Other expense	(689)	(817)	(1,506)
Financial interest on debt	(2,140)	(7)	(2,147)
Financial income and expense from cash & cash equivalents	68	(31)	37
Cost of net debt	(2,072)	(38)	(2,110)
Other financial income	914	-	914
Other financial expense	(689)	(1)	(690)
Net income (loss) from equity affiliates	1,388	(936)	452
Income taxes	(1,309)	991	(318)
Consolidated net income	**4,067**	**(11,403)**	**(7,336)**
Group share	4,059	(11,301)	(7,242)
Non-controlling interests	8	(102)	(94)

[(a)] Adjustments include special items, inventory valuation effect and the effect of changes in fair value.

For the year ended December 31, 2019 (M$)	Adjusted	Adjustments[a]	Consolidated statement of income
Sales	**200,380**	**(64)**	**200,316**
Excise taxes	(24,067)	-	(24,067)
Revenues from sales	176,313	(64)	176,249
Purchases, net of inventory variation	(116,464)	243	(116,221)
Other operating expenses	(26,872)	(383)	(27,255)
Exploration costs	(785)	-	(785)
Depreciation, depletion and impairment of tangible assets and mineral interests	(14,811)	(920)	(15,731)
Other income	876	287	1,163
Other expense	(455)	(737)	(1,192)
Financial interest on debt	(2,318)	(15)	(2,333)
Financial income and expense from cash & cash equivalents	(19)	-	(19)
Cost of net debt	(2,337)	(15)	(2,352)
Other financial income	792	-	792
Other financial expense	(764)	-	(764)
Net income (loss) from equity affiliates	2,260	1,146	3,406
Income taxes	(5,663)	(209)	(5,872)
Consolidated net income	**12,090**	**(652)**	**11,438**
Group share	11,828	(561)	11,267
Non-controlling interests	262	(91)	171

[a] Adjustments include special items, inventory valuation effect and the effect of changes in fair value.

For the year ended December 31, 2018 (M$)	Adjusted	Adjustments[a]	Consolidated statement of income
Sales	**209,307**	**56**	**209,363**
Excise taxes	(25,257)	-	(25,257)
Revenues from sales	184,050	56	184,106
Purchases, net of inventory variation	(125,134)	(682)	(125,816)
Other operating expenses	(27,060)	(424)	(27,484)
Exploration costs	(797)	-	(797)
Depreciation, depletion and impairment of tangible assets and mineral interests	(12,218)	(1,774)	(13,992)
Other income	1,518	320	1,838
Other expense	(448)	(825)	(1,273)
Financial interest on debt	(1,866)	(67)	(1,933)
Financial income and expense from cash & cash equivalents	(188)	-	(188)
Cost of net debt	(2,054)	(67)	(2,121)
Other financial income	1,120	-	1,120
Other financial expense	(685)	-	(685)
Net income (loss) from equity affiliates	3,161	9	3,170
Income taxes	(7,489)	973	(6,516)
Consolidated net income	**13,964**	**(2,414)**	**11,550**
Group share	13,559	(2,113)	11,446
Non-controlling interests	405	(301)	104

[a] Adjustments include special items, inventory valuation effect and the effect of changes in fair value.

C) Additional information on adjustment items

The main adjustment items for 2020 consist of the "Asset impairment charges" of the non-current assets amounting to $(8,952) million in operating income and $(8,465) million in net income Group share. Impairment testing methodology and asset impairment charges recorded during the year are detailed in the paragraph D of Note 3.

Adjustments to operating income

For the year ended December 31, 2020 (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Total
Inventory valuation effect	-	-	(1,244)	(196)	-	(1,440)
Effect of changes in fair value	-	20	-	-	-	20
Restructuring charges	(35)	(39)	(30)	-	-	(104)
Asset impairment charges	(7,693)	(953)	(306)	-	-	(8,952)
Other items	(102)	(384)	(278)	(134)	(60)	(958)
Total	**(7,830)**	**(1,356)**	**(1,858)**	**(330)**	**(60)**	**(11,434)**

Adjustments to net income, Group share

For the year ended December 31, 2020 (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Total
Inventory valuation effect	-	-	(1,160)	(120)	-	(1,280)
Effect of changes in fair value	-	23	-	-	-	23
Restructuring charges	(29)	(43)	(292)	-	-	(364)
Asset impairment charges	(7,328)	(829)	(306)	(2)	-	(8,465)
Gains (losses) on disposals of assets	-	-	-	-	104	104
Other items	-	(566)	(423)	(106)	(224)	(1,319)
Total	**(7,357)**	**(1,415)**	**(2,181)**	**(228)**	**(120)**	**(11,301)**

Adjustments to operating income

For the year ended December 31, 2019 (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Total
Inventory valuation effect	-	-	477	(31)	-	446
Effect of changes in fair value	-	(19)	-	-	-	(19)
Restructuring charges	-	(4)	-	-	-	(4)
Asset impairment charges	(721)	(156)	(41)	(2)	-	(920)
Other items	(145)	(281)	(80)	(9)	(112)	(627)
Total	**(866)**	**(460)**	**356**	**(42)**	**(112)**	**(1,124)**

Adjustments to net income, Group share

For the year ended December 31, 2019 (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Total
Inventory valuation effect	-	-	369	(23)	-	346
Effect of changes in fair value	-	(15)	-	-	-	(15)
Restructuring charges	(5)	(31)	(22)	-	-	(58)
Asset impairment charges	(530)	105	(39)	(1)	-	(465)
Gains (losses) on disposals of assets	-	-	-	-	-	-
Other items	(405)	422	(119)	(82)	(185)	(369)
Total	**(940)**	**481**	**189**	**(106)**	**(185)**	**(561)**

Adjustments to operating income

For the year ended December 31, 2018 (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Total
Inventory valuation effect	-	-	(589)	(6)	-	(595)
Effect of changes in fair value	-	48	-	-	-	48
Restructuring charges	(67)	-	(3)	-	-	(70)
Asset impairment charges	(707)	(1,065)	(2)	-	-	(1,774)
Other items	(132)	(229)	(24)	(39)	(9)	(433)
Total	**(906)**	**(1,246)**	**(618)**	**(45)**	**(9)**	**(2,824)**

Adjustments to net income, Group share

For the year ended December 31, 2018 (M$)	Exploration & Production	Integrated Gas, Renewables & Power	Refining & Chemicals	Marketing & Services	Corporate	Total
Inventory valuation effect	-	-	(414)	(6)	-	(420)
Effect of changes in fair value	-	38	-	-	-	38
Restructuring charges	(94)	(10)	(34)	-	-	(138)
Asset impairment charges	(651)	(896)	(48)	-	-	(1,595)
Gains (losses) on disposals of assets	(14)	(2)	-	-	-	(16)
Other items	252	(112)	(34)	(47)	(41)	18
Total	**(507)**	**(982)**	**(530)**	**(53)**	**(41)**	**(2,113)**

D) Asset impairment

Accounting principles

The recoverable amounts of intangible assets and property, plant and equipment are tested for impairment as soon as any indication of impairment exists. This test is performed at least annually for goodwill.

The recoverable amount is the higher of the fair value (less costs to sell) or the value in use.

Assets are grouped into cash-generating units (or CGUs) and tested. A CGU is a homogeneous set of assets that generates cash inflows that are largely independent of the cash inflows from other groups of assets.

The value in use of a CGU is determined by reference to the discounted expected future cash flows of these assets, based upon Management's expectation of future economic and operating conditions. When this value is less than the carrying amount of the CGU, an impairment loss is recorded. This loss is allocated first to goodwill with a corresponding amount in "Other expenses". Any further losses are then allocated to property, plant and mineral interests with a corresponding amount in "Depreciation, depletion and impairment of tangible assets and mineral interests" and to other intangible assets with a corresponding amount in "Other expenses".

Impairment losses recognized in prior periods can be reversed up to the original carrying amount, had the impairment loss not been recognized. Impairment losses recognized on goodwill cannot be reversed.

Investments in associates or joint ventures are tested for impairment whenever indication of impairment exists. If any objective evidence of impairment exists, the carrying amount of the investment is compared with its recoverable amount, being the higher of its fair value less costs to sell and value in use. If the carrying amount exceeds the recoverable amount, an impairment loss is recorded in "Net income (loss) from equity affiliates".

For the financial year 2020, asset impairments were recorded for an amount of $(8,952) million in operating income and $(8,465) million in net income, Group share. These impairments were qualified as adjustment items of the operating income and net income, Group share.

Impairments relate to certain cash-generating units (CGUs) for which indicators of impairment have been identified, due to changes in operating conditions or the economic environment of the activities concerned.

The principles applied are as follows:

- The future cash flows were determined using the assumptions included in the 2021 budget and in the long-term plan of the Group approved by the Group Executive Committee and the Board of Directors. These assumptions, in particular including operational costs, estimation of oil and gas reserves, future volumes produced and marketed, represent the best estimate from the Group management of economic and technical conditions over the remaining life of the assets;

- The Group, notably relying on data on global energy demand from the “World Energy Outlook” issued by the IEA since 2016, and on its own supply assessments, determines oil & gas prices scenarios based on assumptions about the evolution of core indicators of the Upstream activity (demand for oil & gas products in different markets, investment forecasts, decline in production fields, changes in oil & gas reserves and supply by area and by nature of oil & gas products), of the Downstream activity (changes in refining capacity and demand for petroleum products) and by integrating climate challenges.

  These price scenarios, first prepared within the Strategy and Climate Division, are also reviewed with the Group segments which bring their own expertise. They also integrate studies issued by international agencies, banks and independent consultants. They are then approved by the Executive Committee and the Board of directors.

- The IEA 2020 World Energy Outlook anticipates four scenarios among which the STEPS (Stated Policies Scenario) for the short/mid term and the SDS (Sustainable Development Scenario) for the mid/long term are important references for the Group.

- The STEPS takes into account the measures already implemented by countries in the energy area as well as the effects of the policies announced by Governments (including the Nationally Determined Contributions – NDCs – of the Paris Agreement). The SDS takes into account necessary measures to achieve a temperature rise of less than 2°C compared to pre-industrial levels, and the energy-related goals set in the “2030 Agenda for Sustainable Development” adopted in 2015 by the UN members. The Group therefore establishes its long-term price trajectory in line with the IEA's SDS scenario, which is compatible with the Paris Agreement, and foresees oil prices converging towards $\$50_{2020}$ per barrel by 2040.

The oil and gas price trajectories adopted by the Group are based on the following assumptions:

- Following the deep recession caused by the health crisis in 2020, which strongly impacts the oil demand in 2020 and 2021 before reverting to a pre-crisis level, the oil demand should continue to grow until 2030, in a context of sustained growth in global energy demand, due to population growth and improved living standards, and despite the gradual electrification of transport and efficiency gains in thermal engines.

  The Group thus selected the following profile of the Brent price to determine the recoverable value of CGUs: $40/b in 2021, $50/b in 2022, $60/b in 2023.

  For the longer term, the Group maintains its analysis, that the weakness of investments in the Oil & Gas upstream since 2015, accentuated by the health and economic crisis of 2020, will result by 2025 in insufficient worldwide production capacities and a rebound in prices, that would then reach $70/b and remain stable for the following five years. Beyond 2030, given technological developments, particularly in the transport sector, the Group anticipates oil demand will have reached its peak and Brent prices should tend toward the long-term price of $50/b in 2040, in line with the IEA’s SDS scenario.

  The average Brent prices over the period 2020-2050 thus stands at $\$57_{2020}$/b.

- Natural gas demand would for its part be driven by gas substitution for coal in power generation and by its role as an alternative source to mitigate the intermittent use of renewable energies. The abundant global supply and the growth of liquefied natural gas would, however, limit the potential for higher gas prices.

  In this context, the gas price level selected to determine the recoverable value of CGUs stabilizes from 2025 around $\$6.3_{2020}$/MBTU for the NBP price (Europe) and $\$2.7_{2020}$/MBTU for the Henry Hub price (United States).

- The future operational costs were determined by taking into account the existing technologies, the fluctuation of prices for petroleum services in line with market developments and the internal cost reduction programs effectively implemented;

- The future cash flows are estimated over a period consistent with the life of the assets of the CGUs. They are prepared post-tax and take into account specific risks related to the CGUs' assets. They are discounted using a 7% post-tax discount rate, this rate being the weighted-average cost of the Group capital estimated from historical market data. This rate was 7% in 2019 and 2018. The value in use calculated by discounting the above post-tax cash flows using a 7% post-tax discount rate is not materially different from the value in use calculated by discounting pre-tax cash flows using a pre-tax discount rate determined by an iterative computation from the post-tax value in use. These pre-tax discount rates generally ranged from 7% to 14% in 2020.

The CGUs of the Exploration & Production segment are defined as oil and gas fields or groups of oil and gas fields with industrial assets enabling the production, treatment and evacuation of the oil and gas. For the financial year 2020, impairments of assets were recognized over CGUs of the Exploration & Production segment for an impact of $(2,233) million in operating income and $(1,854) million in net income, Group share. Impairments recognized in 2020 mainly relate to Canadian oil sands assets.

The CGUs of the Integrated Gas, Renewables & Power segment are subsidiaries or groups of subsidiaries organized by activity or geographical area, and by fields or groups of fields for upstream LNG activities. For the financial year 2020, the Group recorded impairments on CGUs in the Integrated Gas, Renewables & Power segment for $(953) million in operating income and $(829) million in net income, Group share. Impairments recognized relate to LNG assets located in Australia.

The CGUs of the Refining & Chemicals segment are defined as legal entities with operational activities for refining and petrochemicals activities. Future cash flows are based on the gross contribution margin (calculated on the basis of net sales after purchases of crude oil and refined products, the effect of inventory valuation and variable costs). The other activities of the segment are global divisions, each division gathering a set of businesses or homogeneous products for strategic, commercial and industrial plans. Future cash flows are determined from the specific margins of these activities, unrelated to the price of oil. For the financial year 2020, the Group recorded impairments on CGUs in the Refining & Chemicals segment for $(306) million in operating income and $(306) million in net income, Group share. Impairments recognized mainly relate to refining CGUs located in France and the United Kingdom.

The CGUs of the Marketing & Services segment are subsidiaries or groups of subsidiaries organized by geographical area. For the financial year 2020, no impairment has been recorded for the CGUs of the Marketing & Services segment in operating income and impairments with a non-material impact have been recorded in net income, Group share.

In addition, in line with its new Climate Ambition announced on May 5, 2020, which aims at carbon neutrality, the Group has reviewed its oil assets that can be qualified as *stranded*, meaning with reserves beyond 20 years and high production costs, whose overall reserves may therefore not be produced by 2050. The only projects identified in this category are the Canadian oil sands projects of Fort Hills and Surmont.

For impairment calculations, the Group has decided to take into account only proven reserves on these two assets – unlike general practice which considers so-called proven and probable reserves. This leads to an additional exceptional asset impairment of $(5,460) million in operating income and $(5,474) million in net income, Group share.

Overall, asset impairments were recorded for the financial year 2020, for an amount of $(8,952) million in operating income and $(8,465) million in net income, Group share, including $(6,988) million on Canadian oil sands assets alone.

These impairments were qualified as adjustment items of the operating income and net income, Group share.

As for sensitivities of Exploration & Production segment:

- a decrease by one point in the discount rate would have an impact close to zero in operating income and in net income, Group share;
- an increase by one point in the discount rate would have an additional negative impact of approximately $0.4 billion in operating income and in net income, Group share;
- a variation of (10) % of the oil and gas prices over the duration of the plan would have an additional negative impact of approximately $1.9 billion in operating income and $1.6 billion in net income, Group share.

  The most sensitive assets would be the assets already impaired in 2020 or before (impact of approximately $1.1 billion in operating income and $0.9 billion in net income, Group share), notably assets in Canada.

As for sensitivities of upstream LNG activities and CGUs including a material goodwill:

- a decrease by one point in the discount rate would have an impact close to zero in operating income and in net income, Group share;
- an increase by one point in the discount rate would have an additional negative impact of approximately $1.1 billion in operating income and $1.0 billion in net income, Group share;
- a variation of (10) % of the oil and gas prices over the duration of the plan would have an additional negative impact of approximately $1.5 billion in operating income and $1.2 billion in net income, Group share.

The most sensitive assets would be the assets already impaired in 2020 or before (impact of approximately $1.5 billion in operating income and $1.2 billion in net income, Group share), notably assets in Australia.

For the financial year 2019, the Group recorded impairments in Exploration & Production, Integrated Gas, Renewables & Power, Refining & Chemicals and Marketing & Services segments for an amount of $(920) million in operating income and $(465) million in net income, Group share. These impairments were qualified as adjustments items of the operating income and net income, Group share.

For the financial year 2018, the Group recorded impairments in Exploration & Production, Integrated Gas, Renewables & Power and Refining & Chemicals segments for an amount of $(1,774) million in operating income and $(1,595) million in net income, Group share. These impairments were qualified as adjustment items of the operating income and net income, Group share.

4) Segment Information by geographical area

(M$)	France	Rest of Europe	North America	Africa	Rest of the world	Total
For the year ended December 31, 2020						
Non-Group sales	32,748	67,292	13,258	16,011	11,376	**140,685**
Property, plant and equipment, intangible assets, net	14,555	30,932	11,891	43,087	41,398	**141,863**
Capital expenditures	2,044	3,165	899	3,816	5,610	**15,534**
For the year ended December 31, 2019						
Non-Group sales	43,877	99,176	19,946	21,303	16,014	**200,316**
Property, plant and equipment, intangible assets, net	13,212	28,765	18,916	45,573	43,120	**149,586**
Capital expenditures	1,979	3,201	1,748	7,663	4,646	**19,237**
For the year ended December 31, 2018						
Non-Group sales	47,716	99,465	22,243	22,263	17,676	**209,363**
Property, plant and equipment, intangible assets, net	12,561	25,262	18,903	43,359	42,161	**142,246**
Capital expenditures	4,502	2,609	2,014	4,838	8,222	**22,185**

5) Main items related to operating activities

Items related to the statement of income

5.1) Net sales

Accounting policies

IFRS 15 requires identification of the performance obligations for the transfer of goods and services in each contract with customers. Revenue is recognized upon satisfaction of the performance obligations for the amounts that reflect the consideration to which the Group expects to be entitled in exchange for those goods and services.

Sales of goods

Revenues from sales are recognized when the control has been transferred to the buyer and the amount can be reasonably measured. Revenues from sales of crude oil and natural gas are recorded upon transfer of title, according to the terms of the sales contracts.

Revenues from the production of crude oil and natural gas properties, in which the Group has an interest with other producers, are recognized based on actual entitlement volumes sold over the period. Any difference between entitlement volumes and volumes sold, based on the Group net working interest, are recognized in the "Under-lifting" and "Over-lifting" accounts in the balance sheet and in operating expenses in the profit and loss.

Quantities delivered that represent production royalties and taxes, when paid in cash, are included in oil and gas revenues, except for the United States and Canada.

Certain transactions within the trading activities (contracts involving quantities that are purchased from third parties then resold to third parties) are shown at their net value in purchases, net of inventory variation. These transactions relate in particular to crude oil, petroleum products, gas, power and LNG.

Exchanges of crude oil and petroleum products realized within trading activities are shown at their net value in both the statement of income and the balance sheet.

Sales of services

Revenues from services are recognized when the services have been rendered.

Revenues from gas transport are recognized when services are rendered. These revenues are based on the quantities transported and measured according to procedures defined in each service contract.

Shipping revenues and expenses from time-charter activities are recognized on a pro rata basis over a period that commences upon the unloading of the previous voyage and terminates upon the unloading of the current voyage. Shipping revenue recognition starts only when a charter has been agreed to by both the Group and the customer.

Income related to the distribution of electricity and gas is not recognized in revenues in certain countries because the Group acts as an agent in this transaction. In these countries, the Group is not responsible for the delivery and does not set the price of the service, because it can only pass on to the customer the amounts invoiced to it by the distributors.

Excise taxes

Excise taxes are rights or taxes which amount is calculated based on the quantity of oil and gas products put on the market. Excise taxes are determined by the states. They are paid directly to the customs and tax authorities and then invoiced to final customers by being included in the sales price.

The analysis of the criteria set by IFRS 15 led the Group to determine that it was acting as principal in these transactions. Therefore, sales include excise taxes collected by the Group within the course of its oil distribution operations. Excise taxes are deducted from sales in order to obtain the "Revenues from sales" indicator.

5.2) Operating expenses and research and development

Accounting policies

The Group applies IFRS 6 "Exploration for and Evaluation of Mineral Resources". Oil and gas exploration and production properties and assets are accounted for in accordance with the Successful Efforts method.

Geological and geophysical costs, including seismic surveys for exploration purposes are expensed as incurred in exploration costs.

Costs of dry wells and wells that have not found proved reserves are charged to expense in exploration costs.

5.2.1) Operating expenses

For the year ended December 31,

(M$)	**2020**	**2019**	**2018**
Purchases, net of inventory variation[(a) (b)]	(77,486)	(116,221)	(125,816)
Exploration costs	(731)	(785)	(797)
Other operating expenses[(c)]	(25,538)	(27,255)	(27,484)
of which non-current operating liabilities (allowances) reversals	*778*	*1,152*	*1,068*
of which current operating liabilities (allowances) reversals	*(77)*	*(157)*	*(202)*
Operating expenses	**(103,755)**	**(144,261)**	**(154,097)**

(a) Includes taxes paid on oil and gas production in the Exploration & Production segment, amongst others royalties.
(b) The Group values under / over lifting at market value.
(c) Principally composed of production and administrative costs (see in particular the payroll costs as detailed in Note 10 to the Consolidated Financial Statements "Payroll, staff and employee benefits obligations").

5.2.2) Research and development costs

Accounting policies

Research costs are charged to expense as incurred.

Development expenses are capitalized when the criteria of IAS38 are met.

Research and development costs incurred by the Group in 2020 and booked in operating expenses amount to $895 million ($968 million in 2019 and $986 million in 2018), corresponding to 0.64% of the sales.

The staff dedicated in 2020 to these research and development activities are estimated at 4,088 people (4,339 in 2019 and 4,288 in 2018).

5.3) Amortization, depreciation and impairment of tangible assets and mineral interests

The amortization, depreciation and impairment of tangible assets and mineral interests are detailed as follows:

For the year ended December 31,

(M$)	**2020**	**2019**	**2018**
Depreciation and impairment of tangible assets	(21,188)	(14,640)	(13,364)
Amortization and impairment of mineral assets	(1,076)	(1,091)	(628)
Total	**(22,264)**	**(15,731)**	**(13,992)**

Items related to balance sheet

5.4) Working capital

5.4.1) Inventories

Accounting policies

Inventories are measured in the Consolidated Financial Statements at the lower of historical cost or market value. Costs for petroleum and petrochemical products are determined according to the FIFO (First-In, First-Out) method or weighted-average cost method and other inventories are measured using the weighted-average cost method.

In addition stocks held for trading are measured at fair value less cost to sell.

Refining & Chemicals

Petroleum product inventories are mainly comprised of crude oil and refined products. Refined products principally consist of gasoline, distillate and fuel produced by the Group's refineries. The turnover of petroleum products does not exceed two months on average.

Crude oil costs include raw material and receiving costs. Refining costs principally include crude oil costs, production costs (energy, labor, depreciation of producing assets) and an allocation of production overheads (taxes, maintenance, insurance, etc.).

Costs of chemical product inventories consist of raw material costs, direct labor costs and an allocation of production overheads. Start-up costs, general administrative costs and financing costs are excluded from the costs of refined and chemicals products.

Marketing & Services

The costs of products refined by the Group's entities include mainly raw materials costs, production costs (energy, labor, depreciation of producing assets), primary costs of transport and an allocation of production overheads (taxes, maintenance, insurance, etc.).

General administrative costs and financing costs are excluded from the cost price of refined products.

Product inventories purchased from entities external to the Group are valued at their purchase cost plus primary costs of transport.

Carbon dioxide emission rights generated as part of the EU Emission Trading scheme (EU ETS)

In the absence of a current IFRS standard or interpretation on accounting for emission rights of carbon dioxide generated as part of the EU Emission Trading scheme (EU ETS), the following principles are applied:

- Emission rights are managed as a cost of production and as such are recognized in inventories:
    - Emission rights allocated for free are booked in inventories with a nil carrying amount;
    - Purchased emission rights are booked at acquisition cost;
    - Sales or annual surrender of emission rights result in decreases in inventories valued at weighted average cost;
    - If the carrying amount of inventories at closing date is higher than the market value, an impairment loss is recorded.
- At each closing, a provision is recorded in order to materialize the obligation to surrender emission rights related to the emissions of the period. This provision is calculated based on estimated emissions of the period, valued at weighted average cost of the inventories at the end of the period. It is reversed when the emission rights are surrendered;
- If emission rights to be surrendered at the end of the compliance period are higher than emission rights recorded in inventories, the shortage is accounted for as a liability at market value;
- Forward transactions are recognized at their fair market value in the balance sheet. Changes in the fair value of such forward transactions are recognized in the statement of income.

Energy savings certificates

In the absence of current IFRS standards or interpretations on accounting for energy savings certificates (ESC), the following principles are applied:

- If the obligations linked to the sales of energy are greater than the number of ESC's held then a liability is recorded. These liabilities are valued based on the price of the last transactions;
- In the event that the number of ESC's held exceeds the obligation at the balance sheet date this is accounted for as inventory. Otherwise a valuation allowance is recorded ;
- ESC inventories are valued at weighted average cost (acquisition cost for those ESC's acquired or cost incurred for those ESC's generated internally).

If the carrying value of the inventory of certificates at the balance sheet date is higher than the market value, an impairment loss is recorded.

As of December 31, 2020 (M$)	**Gross value**	**Valuation allowance**	**Net value**
Crude oil and natural gas	1,818	(1)	1,817
Refined products	3,913	(68)	3,845
Chemicals products	1,330	(102)	1,228
Trading inventories	5,130	-	5,130
Other inventories	3,824	(1,114)	2,710
Total	**16,015**	**(1,285)**	**14,730**

As of December 31, 2019 (M$)	**Gross value**	**Valuation allowance**	**Net value**
Crude oil and natural gas	2,381	(14)	2,367
Refined products	5,326	(45)	5,281
Chemicals products	1,448	(91)	1,357
Trading inventories	5,500	-	5,500
Other inventories	3,651	(1,024)	2,627
Total	**18,306**	**(1,174)**	**17,132**

As of December 31, 2018 (M$)	**Gross value**	**Valuation allowance**	**Net value**
Crude oil and natural gas	2,382	(110)	2,272
Refined products	5,464	(242)	5,222
Chemicals products	1,087	(54)	1,033
Trading inventories	3,918	-	3,918
Other inventories	3,372	(937)	2,435
Total	**16,223**	**(1,343)**	**14,880**

Changes in the valuation allowance on inventories are as follows:

For the year ended December 31, (M$)	**Valuation allowance as of January 1,**	**Increase (net)**	**Currency translation adjustment and other variations**	**Valuation allowance as of December 31,**
2020	**(1,174)**	**(85)**	**(26)**	**(1,285)**
2019	(1,343)	205	(36)	(1,174)
2018	(1,007)	(359)	23	(1,343)

5.4.2) Accounts receivable and other current assets

As of December 31, 2020

(M$)	Gross value	Valuation allowance	Net value
Accounts receivable	**14,899**	**(831)**	**14,068**
Recoverable taxes	3,598	(67)	3,531
Other operating receivables	8,251	(208)	8,043
Prepaid expenses	1,801	-	1,801
Other current assets	53	-	53
Other current assets	**13,703**	**(275)**	**13,428**

As of December 31, 2019

(M$)	Gross value	Valuation allowance	Net value
Accounts receivable	**19,162**	**(674)**	**18,488**
Recoverable taxes	4,209	(95)	4,114
Other operating receivables	11,746	(240)	11,506
Prepaid expenses	1,336	-	1,336
Other current assets	57	-	57
Other current assets	**17,348**	**(335)**	**17,013**

As of December 31, 2018

(M$)	Gross value	Valuation allowance	Net value
Accounts receivable	**17,894**	**(624)**	**17,270**
Recoverable taxes	4,090	-	4,090
Other operating receivables	10,306	(573)	9,733
Prepaid expenses	837	-	837
Other current assets	64	-	64
Other current assets	**15,297**	**(573)**	**14,724**

Changes in the valuation allowance on “Accounts receivable” and “Other current assets” are as follows:

For the year ended December 31, (M$)	**Valuation allowance as of January 1,**	**Increase (net)**	**Currency translation adjustments and other variations**	**Valuation allowance as of December 31,**
Accounts receivable				
2020	**(674)**	**(107)**	**(50)**	**(831)**
2019	(624)	(89)	39	(674)
2018	(576)	(62)	14	(624)
Other current assets				
2020	**(335)**	**37**	**23**	**(275)**
2019	(573)	(46)	284	(335)
2018	(461)	(148)	36	(573)

As of December 31, 2020, the net portion of the overdue receivables included in “Accounts receivable” and “Other current assets” was $4,197 million, of which $2,140 million was due less than 90 days, $239 million was due between 90 days and 6 months, $553 million was due between 6 and 12 months and $1,265 million was due after 12 months.

As of December 31, 2019, the net portion of the overdue receivables included in “Accounts receivable” and “Other current assets” was $3,760 million, of which $2,089 million was due less than 90 days, $357 million was due between 90 days and 6 months, $402 million was due between 6 and 12 months and $912 million was due after 12 months.

As of December 31, 2018, the net portion of the overdue receivables included in “Accounts receivable” and “Other current assets” was $3,767 million, of which $1,993 million was due less than 90 days, $273 million was due between 90 days and 6 months, $450 million was due between 6 and 12 months and $1,051 million was due after 12 months.

5.4.3) Other creditors and accrued liabilities

As of December 31,

(M$)	**2020**	**2019**	**2018**
Accruals and deferred income	842	522	546
Payable to States (including taxes and duties)	5,734	7,438	6,861
Payroll	1,587	1,527	1,553
Other operating liabilities	14,302	16,262	13,286
Total	**22,465**	**25,749**	**22,246**

As of December 31, 2020, the heading “Other operating liabilities” notably includes the second quarterly interim dividend for the fiscal year 2020 for $2,129 million, which was paid in January 2021 and the third quarterly interim dividend for the fiscal year 2020 for $2,149 million, which will be paid in April 2021.

As of December 31, 2019, the heading “Other operating liabilities” notably included the second quarterly interim dividend for the fiscal year 2019 for $1,918 million, which was paid in January 2020 and the third quarterly interim dividend for the fiscal year 2019 for $2,038 million, which was paid in April 2020.

As of December 31, 2018, the heading “Other operating liabilities” notably included the second quarterly interim dividend for the fiscal year 2018 for $1,911 million, which was paid in January 2019 and the third quarterly interim dividend for the fiscal year 2018 for $1,912 million, which was paid in April 2019.

Items related to the cash flow statement

5.5) Cash flow from operating activities

Accounting policies

The Consolidated Statement of Cash Flows prepared in currencies other than dollar has been translated into dollars using the exchange rate on the transaction date or the average exchange rate for the period. Currency translation differences arising from the translation of monetary assets and liabilities denominated in foreign currency into dollars using the closing exchange rates are shown in the Consolidated Statement of Cash Flows under “Effect of exchange rates”. Therefore, the Consolidated Statement of Cash Flows will not agree with the figures derived from the Consolidated Balance Sheet.

The following table gives additional information on cash paid or received in the cash flow from operating activities.

Detail of interest, taxes and dividends

For the year ended December 31,

(M$)	**2020**	**2019**	**2018**
Interests paid	(2,145)	(2,181)	(1,818)
Interests received	197	210	164
Income tax paid[(a)]	(2,858)	(5,293)	(5,024)
Dividends received	1,444	1,988	2,456

(a) These amounts include taxes paid in kind under production-sharing contracts in exploration and production activities.

Detail of changes in working capital

For the year ended December 31,

(M$)	**2020**	**2019**	**2018**
Inventories	2,274	(2,071)	1,430
Accounts receivable	4,818	(933)	(1,461)
Other current assets	3,374	(2,001)	(364)
Accounts payable	(5,355)	1,998	(822)
Other creditors and accrued liabilities	(3,242)	1,289	1,986
Net amount, Decrease (Increase)	**1,869**	**(1,718)**	**769**

Detail of changes in provisions and deferred taxes

As of December 31, (M$)	2020	2019	2018
Accruals	350	403	(432)
Deferred taxes	(2,132)	(461)	(455)
Total	**(1,782)**	**(58)**	**(887)**

6) Other items from operating activities

6.1) Other income and other expense

For the year ended December 31, (M$)	2020	2019	2018
Gains on disposal of assets	961	670	1,041
Foreign exchange gains	746	238	252
Other	530	255	545
Other income	**2,237**	**1,163**	**1,838**
Losses on disposal of assets	(52)	(56)	(111)
Foreign exchange losses	(320)	(463)	(444)
Amortization of other intangible assets (excl. mineral interests)	(343)	(266)	(225)
Other	(791)	(407)	(493)
Other expense	**(1,506)**	**(1,192)**	**(1,273)**

Other income

In 2020, gains on disposal of assets are mainly related to the sale of non-strategic assets in the British North Sea in the Exploration & Production segment, to the sale of the group's interest in the Fos Cavaou regasification terminal in France and the sale of infrastructure assets in the Integrated Gas Renewables & Power segment, as well as to the sale of real estate in Belgium in the Holding segment.

In 2019, gains on disposal of assets mainly related to the sale of assets and interests in Norway in the Exploration & Production segment, to the sale of Hazira and SunPower assets in the Integrated Gas Renewables & Power segment and the sale of assets in China in the Refining & Chemicals segment.

In 2018, gains on disposal of assets mainly related to the sale of assets and interests in Norway, Canada and Gabon in the Exploration & Production segment, to the sale of Dunkerque LNG SAS and SunPower assets in the Integrated Gas Renewables & Power segment and the sale of TotalErg and Total Haiti in the Marketing & Services segment.

Other expense

In 2020, the heading "Other" notably consists of restructuring charges in the Exploration & Production, Integrated Gas Renewables & Power and Refining & Chemicals segments for an amount of $312 million, and of the impairment of non-consolidated shares and loans granted to non-consolidated subsidiaries for an amount of $64 million.

In 2019, the heading "Other" notably consisted of restructuring charges in the Exploration & Production, Integrated Gas Renewables & Power and Refining & Chemicals segments for an amount of $96 million, and of the revaluation at fair value of non-consolidated shares for $94 million.

In 2018, the heading "Other" mainly consisted of restructuring charges in the Exploration & Production, Integrated Gas Renewables & Power and Refining & Chemicals segments for an amount of $179 million, and of the impairment of non-consolidated shares and loans granted to non-consolidated subsidiaries and equity affiliates for $77 million.

6.2) Other financial income and expense

As of December 31, (M$)	2020	2019	2018
Dividend income on non-consolidated subsidiaries	160	178	171
Capitalized financial expenses	110	227	519
Other	644	387	430
Other financial income	**914**	**792**	**1,120**
Accretion of asset retirement obligations	(607)	(639)	(530)
Other	(83)	(125)	(155)
Other financial expense	**(690)**	**(764)**	**(685)**

6.3) Other non-current assets

As of December 31, 2020 (M$)	Gross value	Valuation allowance	Net value
Loans and advances[(a)]	2,731	(273)	2,458
Other non-current financial assets related to operational activities	287	-	287
Other	65	-	65
Total	**3,083**	**(273)**	**2,810**

As of December 31, 2019 (M$)	Gross value	Valuation allowance	Net value
Loans and advances[(a)]	2,248	(266)	1,982
Other non-current financial assets related to operational activities	332	-	332
Other	101	-	101
Total	**2,681**	**(266)**	**2,415**

As of December 31, 2018 (M$)	Gross value	Valuation allowance	Net value
Loans and advances[(a)]	2,180	(303)	1,877
Other non-current financial assets related to operational activities	471	-	471
Other	161	-	161
Total	**2,812**	**(303)**	**2,509**

[(a)] Excluding loans to equity affiliates.

Changes in the valuation allowance on loans and advances are detailed as follows:

For the year ended December 31, (M$)	Valuation allowance as of January 1,	Increases	Decreases	Currency translation adjustment and other variations	Valuation allowance as of December 31,
2020	**(266)**	**(30)**	**15**	**8**	**(273)**
2019	(303)	(7)	43	1	(266)
2018	(359)	(5)	35	26	(303)

7) Intangible and tangible assets

7.1) Intangible assets

Accounting policies

Goodwill

Guidance for measuring goodwill is presented in Note 1.1 paragraph B to the Consolidated Financial Statements. Goodwill is not amortized but is tested for impairment at least annually and as soon as there is any indication of impairment.

Mineral interests

Unproved mineral interests are tested for impairment based on the results of the exploratory activity or as part of the impairment tests of the cash-generating units to which they are allocated.

Unproved mineral interests are transferred to proved mineral interests at their net book value as soon as proved reserves are booked.

Proved mineral interests are depreciated using the unit-of-production method based on proved reserves.

The corresponding expense is recorded as depreciation of tangible assets and mineral interests.

Other intangible assets

Other intangible assets include patents, and trademarks.

Intangible assets are carried at cost, after deducting any accumulated amortization and accumulated impairment losses.

Intangible assets (excluding mineral interests) that have a finite useful life are amortized on a straight-line basis over three to twenty years depending on the useful life of the assets. The corresponding depreciation expense is recorded under other expense.

As of December 31, 2020 (M$)	**Cost**	**Amortization and impairment**	**Net**
Goodwill	9,738	(931)	8,807
Proved mineral interests	16,559	(9,595)	6,964
Unproved mineral interests	20,300	(4,790)	15,510
Other intangible assets	7,212	(4,965)	2,247
Total intangible assets	**53,809**	**(20,281)**	**33,528**

As of December 31, 2019 (M$)	**Cost**	**Amortization and impairment**	**Net**
Goodwill	9,357	(1,011)	8,346
Proved mineral interests	15,966	(8,741)	7,225
Unproved mineral interests	20,138	(4,558)	15,580
Other intangible assets	5,743	(3,716)	2,027
Total intangible assets	**51,204**	**(18,026)**	**33,178**

As of December 31, 2018 (M$)	Cost	Amortization and impairment	Net
Goodwill	9,188	(1,014)	8,174
Proved mineral interests	14,775	(7,947)	6,828
Unproved mineral interests	16,712	(4,491)	12,221
Other intangible assets	5,824	(4,125)	1,699
Total intangible assets	**46,499**	**(17,577)**	**28,922**

Change in net intangible assets is analyzed in the following table:

(M$)	Net amount as of January 1,	Expenditures	Disposals	Amortization and impairment	Currency translation adjustment	Other	Net amount as of December 31,
2020	**33,178**	**784**	**(277)**	**(1,430)**	**305**	**968**	**33,528**
2019	28,922	1,087	(118)	(1,359)	(95)	4,741	33,178
2018	14,587	3,745	(28)	(852)	(351)	11,821	28,922

In 2020, the heading “Amortization and impairment" includes the accounting impact of exceptional asset impairments for an amount of $323 million (see note 3 paragraph D to the Consolidated Financial Statements).

In 2020, the heading “Other” mainly reflects changes in the consolidation scope (including the acquisition of the residential gas and electricity supply business in Spain) for $898 million.

In 2019, the heading “Amortization and impairment" included the accounting impact of exceptional asset impairments for an amount of $251 million (see note 3 paragraph D to the Consolidated Financial Statements).

In 2019, the heading “Other” mainly reflected changes in the consolidation scope (including the assets of Anadarko in Mozambique) for $3,887 million.

In 2018, the heading “Amortization and impairment" included the accounting impact of exceptional asset impairments for an amount of $67 million (see note 3 paragraph D to the Consolidated Financial Statements).

In 2018, the heading “Other” mainly reflected changes in the consolidation scope (including Maersk Oil, Global LNG and Direct Energie) for $12,044 million.

A summary of changes in the carrying amount of goodwill by business segment for the year ended December 31, 2020 is as follows:

(M$)	Net goodwill as of January 1, 2020	Increases	Impairments	Other	Net goodwill as of December 31, 2020
Exploration & Production	2,642	-	-	(4)	2,638
Integrated Gas, Renewables & Power	4,774	401	-	72	5,247
Refining & Chemicals	523	17	-	(6)	534
Marketing & Services	379	-	-	(22)	357
Corporate	28	-	-	3	31
Total	8,346	418	-	43	8,807

The heading “Increases” includes the effect of entries in the consolidation scope, mainly the acquisition in Spain of the gas and electricity residential supply for an amount of $345 million (see Note 2 paragraph 2 to the Consolidated Financial Statements).

7.2) Property, plant and equipment

Accounting policies

Exploration costs

The Group applies IFRS 6 "Exploration for and Evaluation of Mineral Resources". Oil and gas exploration and production properties and assets are accounted for in accordance with the Successful Efforts method.

Exploratory wells are capitalized and tested for impairment on an individual basis as follows:

- Costs of exploratory wells which result in proved reserves are capitalized and then depreciated using the unit-of-production method based on proved developed reserves;

- Costs of exploratory wells are temporarily capitalized until proved reserves have been found, if both of the following conditions are met:
  - The well has found a sufficient quantity of reserves to justify, if appropriate, its completion as a producing well, assuming that the required capital expenditures are made;
  - The Group is making sufficient progress assessing the reserves and the economic and operating viability of the project. This progress is evaluated on the basis of indicators such as whether additional exploratory works are under way or firmly planned (wells, seismic or significant studies), whether costs are being incurred for development studies and whether the Group is waiting for governmental or other third-party authorization on a proposed project, or availability of capacity on an existing transport or processing facility.

Costs of exploratory wells not meeting these conditions are charged to exploration costs.

Oil and Gas production assets of exploration and production activities

Development costs of oil and gas production facilities are capitalized. These costs include borrowing costs incurred during the period of construction and the present value of estimated future costs of asset retirement obligations.

The depletion rate of development wells and of production assets is equal to the ratio of oil and gas production for the period to proved developed reserves (unit-of-production method).

In the event that, due to the price effect on reserves evaluation, the unit-of-production method does not reflect properly the useful life of the asset, an alternative depreciation method is applied based on the reserves evaluated with the price of the previous year. This is the case in 2020 where the method of unit-of-production depreciation is applied to all assets in 2020 based on proven reserves measured with the price used in 2019. This method complies with IAS16.

With respect to phased development projects or projects subject to progressive well production start-up, the fixed assets' depreciable amount, excluding production or service wells, is adjusted to exclude the portion of development costs attributable to the undeveloped reserves of these projects.

With respect to production sharing contracts, the unit-of-production method is based on the portion of production and reserves assigned to the Group taking into account estimates based on the contractual clauses regarding the reimbursement of exploration, development and production costs (cost oil/gas) as well as the sharing of hydrocarbon rights after deduction of cost oil (profit oil/gas).

Hydrocarbon transportation and processing assets are depreciated using the unit-of-production method based on throughput or by using the straight-line method whichever best reflects the economic life of the asset.

Other property, plant and equipment

Other property, plant and equipment are carried at cost, after deducting any accumulated depreciation and accumulated impairment losses. This cost includes borrowing costs directly attributable to the acquisition or production of a qualifying asset incurred until assets are placed in service. Borrowing costs are capitalized as follows:

- if the project benefits from a specific funding, the capitalization of borrowing costs is based on the borrowing rate;
- if the project is financed by all the Group's debt, the capitalization of borrowing costs is based on the weighted average borrowing cost for the period.

Routine maintenance and repairs are charged to expense as incurred. The costs of major turnarounds of refineries and large petrochemical units are capitalized as incurred and depreciated over the period of time between two consecutive major turnarounds.

Other property, plant and equipment are depreciated using the straight-line method over their useful lives, which are as follows:

• Furniture, office equipment, machinery and tools	3-12 years
• Transportation equipment	5-20 years
• Storage tanks and related equipment	10-15 years
• Specialized complex installations and pipelines	10-30 years
• Buildings	10-50 years

As of December 31, 2020 (M$)	**Cost**	**Depreciation and impairment**	**Net**
Property, plant and equipment of exploration and production activities			
Proved properties	215,892	(147,914)	67,978
Unproved properties	2,978	(268)	2,710
Work in progress	13,873	(861)	13,012
Subtotal	**232,743**	**(149,043)**	**83,700**
Other property, plant and equipment			
Land	2,999	(905)	2,094
Machinery, plant and equipment (including transportation equipment)	39,506	(27,381)	12,125
Buildings	11,184	(6,858)	4,326
Work in progress	3,063	(1)	3,062
Other	10,983	(7,955)	3,028
Subtotal	**67,735**	**(43,100)**	**24,635**
Total property, plant and equipment	**300,478**	**(192,143)**	**108,335**

As of December 31, 2019 (M$)	**Cost**	**Depreciation and impairment**	**Net**
Property, plant and equipment of exploration and production activities			
Proved properties	210,071	(130,134)	79,937
Unproved properties	2,160	(288)	1,872
Work in progress	12,056	(569)	11,487
Subtotal	**224,287**	**(130,991)**	**93,296**
Other property, plant and equipment			
Land	2,826	(792)	2,034
Machinery, plant and equipment (including transportation equipment)	36,747	(25,548)	11,199
Buildings	10,519	(6,032)	4,487
Work in progress	2,501	(2)	2,499
Other	10,137	(7,244)	2,893
Subtotal	**62,730**	**(39,618)**	**23,112**
Total property, plant and equipment	**287,017**	**(170,609)**	**116,408**

As of December 31, 2018 (M$)	Cost	Depreciation and impairment	Net
Property, plant and equipment of exploration and production activities			
Proved properties	192,272	(120,435)	71,837
Unproved properties	1,673	(152)	1,521
Work in progress	22,553	(1,128)	21,425
Subtotal	**216,498**	**(121,715)**	**94,783**
Other property, plant and equipment			
Land	1,775	(648)	1,127
Machinery, plant and equipment (including transportation equipment)	34,564	(25,393)	9,171
Buildings	8,864	(5,640)	3,224
Work in progress	2,540	(2)	2,538
Other	9,171	(6,690)	2,481
Subtotal	**56,914**	**(38,373)**	**18,541**
Total property, plant and equipment	**273,412**	**(160,088)**	**113,324**

Change in net property, plant and equipment is analyzed in the following table:

(M$)	Net amount as of January 1,	Expenditures	Disposals	Depreciation and impairment	Currency translation adjustment	Other	Net amount as of December 31,
2020	**116,408**	**9,980**	**(611)**	**(21,544)**	**1,706**	**2,396**	**108,335**
2019	113,324	11,426	(1,052)	(15,097)	(270)	8,077	116,408
2018	109,397	13,336	(2,494)	(13,732)	(1,454)	8,271	113,324

In 2020, the heading “Disposals” mainly includes the sale of non strategic assets in the United Kingdom for $240 million.

In 2020, the heading “Depreciation and impairment” includes the impact of impairments of assets recognized for an amount of $8,629 million (see Note 3 paragraph D to the Consolidated Financial Statements).

In 2020, the heading “Other” includes the impact of changes in the consolidation scope, the impact of the new IFRS 16 contracts of the period (mainly LNG carriers and FPSO vessels) for an amount of $1,815 million, and the reversal of the reclassification under IFRS 5 as at December 31, 2019 for $434 million corresponding to disposals (mainly non strategic assets in the United Kingdom and Total E&P Deep Offshore Borneo BV).

In 2019, the heading “Disposals” mainly included the impact of the 4% sale of Ichthys LNG in Australia.

In 2019, the heading “Depreciation and impairment” included the impact of impairments of assets recognized for an amount of $669 million (see Note 3 paragraph D to the Consolidated Financial Statements).

In 2019, the heading “Other” principally corresponded to the effect of the first application of IFRS 16 for an amount of $5,698 million, the entries in the consolidation scope (including Anadarko assets for $767 million) and the reversal of the reclassification under IFRS 5 as at December 31, 2018 for $812 million corresponding to disposals.

In 2018, the heading “Disposals” mainly included the impact of sales in the Exploration & Production segment (mainly Martin Linge in Norway and Fort Hills in Canada).

In 2018, the heading “Depreciation and impairment” included the impact of impairments of assets recognized for an amount of $1,707 million (see Note 3 paragraph D to the Consolidated Financial Statements).

In 2018, the heading “Other” principally corresponded to the effect of the entries in the consolidation scope (including Maersk, Lapa and Iara in Brazil and Direct Energie) for $6,987 million, to the reclassification of assets in accordance with IFRS 5 "Non-current assets held for sale and discontinued operations” (mainly related to the 4% sale of Ichthys for $(812) million) and the reversal of the reclassification under IFRS 5 as at December 31, 2017 for $2,604 million corresponding to disposals.

Following the application of IFRS 16 "Leases", property, plant and equipment as at December 31, 2020 and 2019 presented above include the following amounts for rights of use of assets:

As of December 31, 2020 (M$)	Cost	Depreciation and impairment	Net
Property, plant and equipment of exploration and production activities	2,758	(1,297)	1,461
Other property, plant and equipment			
Land	1,187	(222)	965
Machinery, plant and equipment (including transportation equipment)	4,606	(1,631)	2,975
Buildings	1,778	(385)	1,393
Other	682	(286)	396
Subtotal	**8,253**	**(2,524)**	**5,729**
Total property, plant and equipment	**11,011**	**(3,821)**	**7,190**

As of December 31, 2019 (M$)	Cost	Depreciation and impairment	Net
Property, plant and equipment of exploration and production activities	2,482	(517)	1,965
Other property, plant and equipment			
Land	1,031	(104)	927
Machinery, plant and equipment (including transportation equipment)	3,527	(999)	2,528
Buildings	1,545	(201)	1,344
Other	483	(134)	349
Subtotal	**6,586**	**(1,438)**	**5,148**
Total property, plant and equipment	**9,068**	**(1,955)**	**7,113**

Property, plant and equipment as at December 31, 2018 presented above include the following amounts for facilities and equipment under finance leases:

As of December 31, 2018 (M$)	Cost	Depreciation and impairment	Net
Machinery, plant and equipment	1,778	(605)	1,173
Buildings	121	(56)	65
Other	543	(83)	460
Total	**2,442**	**(744)**	**1,698**

8) Equity affiliates, other investments and related parties

8.1) Equity affiliates: investments and loans

Accounting principles

Under the equity method, the investment in the associate or joint venture is initially recognized at acquisition cost and subsequently adjusted to recognize the Group's share of the net income and other comprehensive income of the associate or joint venture.

Unrealized gains on transactions between the Group and its equity-accounted entities are eliminated to the extent of the Group's interest in the equity accounted entity.

In equity affiliates, goodwill is included in investment book value.

In cases where the group holds less than 20% of the voting rights in another entity, the determination of whether the Group exercises significant influence is also based on other facts and circumstances: representation on the board of directors or an equivalent governing body of the entity, participation in policy-making processes, including participation in decisions relating to dividends or other distributions, significant transactions between the investor and the entity, exchange of management personnel, or provision of essential technical information.

The contribution of equity affiliates in the consolidated balance sheet, consolidated statement of income and consolidated statement of comprehensive income is presented below:

Equity value **As of December 31,** (M$)	**2020**	**2019**	**2018**
Total Associates	15,745	17,026	13,330
Total Joint ventures	7,102	6,097	5,359
Total	**22,847**	**23,123**	**18,689**
Loans	5,129	3,999	4,755
Total	**27,976**	**27,122**	**23,444**

Profit/(loss) (M$)	**2020**	**2019**	**2018**
Total Associates	753	2,534	2,329
Total Joint ventures	(301)	872	841
Total	**452**	**3,406**	**3,170**

Other comprehensive income (M$)	**2020**	**2019**	**2018**
Total Associates	(1,704)	592	(461)
Total Joint ventures	(127)	(184)	(79)
Total	**(1,831)**	**408**	**(540)**

A) *Information related to associates*

Information (100% gross) related to significant associates is as follows:

Exploration and production activites	Novatek[a]			Liquefaction entities			PetroCedeño[a]		
(M$)	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**
Non current assets	23,748	24,081	14,639	34,273	30,578	28,664	4,008	3,994	4,324
Current assets	4,170	6,898	4,545	7,537	9,994	9,358	6,428	7,457	5,580
Total Assets	**27,918**	**30,979**	**19,184**	**41,810**	**40,572**	**38,022**	**10,436**	**11,451**	**9,904**
Shareholder's equity	22,160	24,884	14,163	23,403	23,640	22,615	4,548	4,548	4,581
Non current liabilities	3,164	3,727	3,086	13,608	11,445	9,826	73	76	20
Current liabilities	2,594	2,368	1,935	4,799	5,487	5,581	5,815	6,827	5,303
Total Liabilities	**27,918**	**30,979**	**19,184**	**41,810**	**40,572**	**38,022**	**10,436**	**11,451**	**9,904**
Revenue from sales	9,733	13,227	13,415	15,584	22,684	25,644	66	356	1,629
Net income	**1,759**	**8,260**	**4,636**	**2,416**	**5,692**	**7,408**	**-**	**(33)**	**122**
Other comprehensive income	**(3,206)**	**1,807**	**(2,545)**	**-**	**-**	**-**	**-**	**-**	**-**
% owned	19.40%	19.40%	19.40%				30.32%	30.32%	30.32%
Revaluation identifiable assets on equity affiliates	1,297	1,641	1,556	1,837	1,714	44	-	-	-
Equity value	5,596	6,469	4,303	5,534	5,493	3,758	1,379	1,379	1,389
Profit/(loss)	264	1,508	794	237	637	874	-	(10)	37
Share of Other Comprehensive Income, net amount	(1,409)	634	(540)	(122)	23	49	-	-	-
Dividends paid to the Group	229	266	151	406	752	816	-	-	218

(a) Information includes the best Group's estimates of results at the date of TOTAL's financial statements.

Novatek, listed in Moscow and London, is the 2nd largest producer of natural gas in Russia. The Group share of Novatek's market value amounted to $9,951 million as at December 31, 2020. Novatek is consolidated by the equity method. TOTAL, in fact, exercises significant influence particularly through its representation on the Board of Directors of Novatek and its interest in Yamal LNG and the project Arctic LNG 2.

The Group is not aware of significant restrictions limiting the ability of OAO Novatek to transfer funds to its shareholder, be it under the form of dividends, repayment of advances or loans made.

The Group's interests in associates operating liquefaction plants are combined. The amounts include investments in: Nigeria LNG (15.00%), Angola LNG (13.60%), Yemen LNG (39.62%), Qatar Liquefied Gas Company Limited (Qatargas) (10.00%), Qatar Liquefied Gas Company Limited II (16.70%), Oman LNG (5.54%), and Abu Dhabi Gas Liquefaction Company Limited (5.00%), Arctic LNG 2 (10.00%).

PetroCedeño produces and upgrades extra-heavy crude oil in Venezuela.

Refining & Chemicals activities	Saudi Aramco Total Refining & Petrochemicals			Qatar		
(M$)	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**
Non current assets	10,698	10,976	11,281	4,105	4,160	3,968
Current assets	1,211	1,793	2,069	1,521	1,571	1,741
Total Assets	**11,909**	**12,769**	**13,350**	**5,626**	**5,731**	**5,709**
Shareholder's equity	1,256	2,113	2,412	2,717	2,676	2,748
Non current liabilities	7,994	8,098	8,398	2,171	2,150	1,914
Current liabilities	2,659	2,558	2,540	738	905	1,047
Total Liabilities	**11,909**	**12,769**	**13,350**	**5,626**	**5,731**	**5,709**
Revenue from sales	6,031	10,522	11,886	5,222	8,225	9,929
Net income	**(686)**	**(171)**	**122**	**91**	**42**	**409**
Other comprehensive income	**(171)**	**(124)**	**16**	**-**	**111**	**(21)**
% owned	37.50%	37.50%	37.50%			
Revaluation identifiable assets on equity affiliates	-	-	-	-	-	-
Equity value	471	792	905	716	706	740
Profit/(loss)	(257)	(64)	46	57	91	198
Share of Other Comprehensive Income, net amount	(128)	(33)	40	(16)	14	6
Dividends paid to the Group	-	-	56	63	159	271

Saudi Aramco Total Refining & Petrochemicals is an entity including a refinery in Jubail, Saudi Arabia, with a capacity of 460,000 barrels/day with integrated petrochemical units.

The Group's interests in associates of the Refining & Chemicals segment, operating steam crackers and polyethylene lines in Qatar have been combined: Qatar Petrochemical Company Ltd. (20.00%), Qatofin (49.09%), Laffan Refinery (10.00%) and Laffan Refinery II (10.00%).

B) Information related to joint ventures

The information (100% gross) related to significant joint ventures is as follows:

(M$)	Liquefaction entities (Integrated Gas, Renewables & Power)			Hanwha Total Petrochemicals (Refining & Chemicals)		
	2020	**2019**	**2018**	**2020**	**2019**	**2018**
Non current assets	70,425	70,279	68,003	4,664	4,310	4,017
Current assets excluding cash and cash equivalents	1,513	1,866	1,928	1,575	1,842	2,180
Cash and cash equivalents	1,834	1,678	339	303	322	237
Total Assets	**73,772**	**73,823**	**70,270**	**6,542**	**6,474**	**6,434**
Shareholder's equity	4,433	7,151	7,059	3,443	3,319	3,534
Other non current liabilities	8,259	6,864	3,472	167	150	157
Non current financial debts	58,128	56,379	56,841	1,703	1,761	1,418
Other current liabilities	2,952	3,429	2,898	583	756	725
Current financial debts	-	-	-	646	488	600
Total Liabilities	**73,772**	**73,823**	**70,270**	**6,542**	**6,474**	**6,434**
Revenue from sales	8,543	9,240	2,908	5,734	8,437	10,191
Depreciation and depletion of tangible assets and mineral interests	(3,130)	(3,040)	(1,227)	(278)	(256)	(269)
Interest income	2	5	119	-	-	9
Interest expense	(2,972)	(2,993)	(670)	(2)	(14)	(5)
Income taxes	77	(270)	(386)	(69)	(124)	(310)
Net income	**(2,399)**	**383**	**2,029**	**133**	**302**	**754**
Other comprehensive income	**(323)**	**(429)**	**132**	**194**	**(116)**	**(169)**
% owned				50.00%	50.00%	50.00%
Revaluation identifiable assets on equity affiliates	546	660	683	-	-	-
Equity value	1,602	2,318	2,404	1,721	1,660	1,767
Profit/(loss)	(633)	(19)	192	67	150	377
Share of Other Comprehensive Income, net amount	(84)	(112)	40	87	(68)	(67)
Dividends paid to the Group	-	-	-	102	200	332

The Group's interests in joint ventures operating liquefaction plants have been combined. The amounts include investments in Yamal LNG in Russia (20.02% direct holding) and Ichthys LNG in Australia (26.00%).

Hanwha Total Petrochemicals is a South Korean company that operates a petrochemical complex in Daesan (condensate separator, steam cracker, styrene, paraxylene, polyolefins).

Off balance sheet commitments relating to joint ventures are disclosed in Note 13 of the Consolidated Financial Statements.

C) Other equity consolidated affiliates

In Group share, the main aggregated financial items in equity consolidated affiliates including assets held for sale, which have not been presented individually are as follows:

As of December 31, (M$)	2020		2019		2018	
	Associates	Joint ventures	Associates	Joint ventures	Associates	Joint ventures
Non Current assets	5,454	7,002	5,435	4,287	4,512	2,487
Current assets	1,299	1,671	1,357	1,276	1,263	752
Total Assets	**6,753**	**8,673**	**6,792**	**5,563**	**5,775**	**3,239**
Shareholder's equity	1,183	1,963	1,405	1,437	1,438	1,108
Non current liabilities	4,881	5,469	4,412	3,091	3,254	1,585
Current liabilities	689	1,241	975	1,035	1,083	546
Total Liabilities	**6,753**	**8,673**	**6,792**	**5,563**	**5,775**	**3,239**

For the year ended December 31, (M$)	2020		2019		2018	
	Associates	Joint ventures	Associates	Joint ventures	Associates	Joint ventures
Revenues from sales	2,154	3,116	2,190	3,535	2,542	11,914
Net income	**478**	**202**	**383**	**288**	**380**	**281**
Share of other comprehensive income items	(29)	(130)	(46)	(4)	(16)	(52)
Equity value	2,049	3,779	2,187	2,119	2,235	1,188
Profit/(Loss)	452	265	372	741	380	272
Dividends paid to the Group	409	59	362	50	416	49

8.2) Other investments

Accounting policies

Other investments are equity instruments and are measured according to IFRS 9 at fair value through profit and loss (default option). On initial recognition, the standard allows to make an election to record the changes of fair value in other comprehensive income. For these equity instruments, only dividends can be recognized in profit or loss.

The Group recognizes changes in fair value in equity or in profit or loss according to the option chosen on an instrument by instrument basis.

For quoted shares on active markets, this fair value is equal to the market price.

As of December 31, 2020	As of January 1, 2020	Increase - Decrease	Change in fair value	As of December 31, 2020
Enphase Energy Inc	173	(251)	691	613
Tellurian Investments Inc.	207	(1)	(149)	57
Other shares through fair value OCI (unit value < $50M)	126	(4)	(9)	113
Equity instruments recorded through fair value OCI	**506**	**(256)**	**533**	**783**
BBPP	62	(4)	-	58
BTC Limited	28	-	(1)	27
Tas Helat Marketing Company [(a)]	108	(108)	-	-
Other shares through fair value P&L (unit value < $50M)	1,074	84	(19)	1,139
Equity instruments recorded through fair value P&L	**1,272**	**(28)**	**(20)**	**1,224**
Total equity instruments	**1,778**	**(284)**	**513**	**2,007**

(a) Tas Helat Marketing Company is a joint venture with SAUDI ARAMCO to develop the retail business.
It was consolidated in 2020 (using the equity method).

As of December 31, 2019	As of January 1, 2019	Increase - Decrease	Change in fair value	As of December 31, 2019
Enphase Energy Inc	36	(5)	142	173
Tellurian Investments Inc.	207	-	-	207
Other shares through fair value OCI (unit value < $50M)	119	7	-	126
Equity instruments recorded through fair value OCI	**362**	**2**	**142**	**506**
BBPP	62	-	-	62
BTC Limited	50	-	(22)	28
Tas Helat Marketing Company [(a)]	-	108	-	108
Total Lubrificantes do Brasil[(b)]	111	(111)	-	-
Other shares through fair value P&L (unit value < $50M)	836	238	-	1,074
Equity instruments recorded through fair value P&L	**1,059**	**235**	**(22)**	**1,272**
Total equity instruments	**1,421**	**237**	**120**	**1,778**

(a) Tas Helat Marketing Company is a joint venture with SAUDI ARAMCO to develop the retail business.
It will be consolidated in 2020 (using the equity method).

(b) Total Lubrificantes do Brasil was consolidated in 2019.

As of December 31, 2018	As of January 1, 2018	Increase - Decrease	Change in fair value	As of December 31, 2018
Tellurian Investments Inc.	207	-	-	207
Other shares through fair value OCI (unit value < $50M)	77	80	(2)	155
Equity instruments recorded through fair value OCI	**284**	**80**	**(2)**	**362**
BBPP	62	-	-	62
BTC Limited	55	-	(5)	50
DUNKERQUE LNG SAS	144	(217)	73	-
Total Lubrificantes do Brasil[(a)]	-	111	-	111
Other shares through fair value P&L (unit value < $50M)	1,182	(346)	-	836
Equity instruments recorded through fair value P&L	**1,443**	**(452)**	**68**	**1,059**
Total equity instruments	**1,727**	**(372)**	**66**	**1,421**

(a) Total Lubrificantes do Brasil will be consolidated in 2019.

8.3) Related parties

The main transactions as well as receivable and payable balances with related parties (principally non-consolidated subsidiaries and equity consolidated affiliates) are detailed as follows:

As of December 31, (M$)	**2020**	**2019**	**2018**
Balance sheet			
Receivables			
Debtors and other debtors	545	486	496
Loans (excl. loans to equity affiliates)	89	42	57
Payables			
Creditors and other creditors	662	968	888
Debts	3	2	2

For the year ended December 31, (M$)	**2020**	**2019**	**2018**
Statement of income			
Sales	3,134	4,127	4,192
Purchases	(7,183)	(10,158)	(9,253)
Financial income	1	4	2
Financial expense	(6)	(4)	(5)

8.4) Compensation for the administration and management bodies

The aggregate amount of direct and indirect compensation accounted by the French and foreign affiliates of the Company, for all executive officers of TOTAL as of December 31 and for the members of the Board of Directors who are employees of the Group, is detailed below.

During fiscal year 2020, the Company, taking into account the definition from US regulations applicable to Executive Officers and in the interest of harmonization, has chosen to reduce the list of its Executive Officers to the members of the Executive Committee in order to align this list with the list of “Persons Discharging Managerial Responsibilities" (PDMR) within the sense of Article 19.5 of Regulation (EU) No. 596/2014 on Market Abuse ("Regulation"). For the purposes of this Regulation, PDMRs are defined as the persons referred to in Article L. 621-18-2 (a) of the French Monetary and Financial Code (the "Directors") and the persons referred to in Article L. 621-18-2 (b) of the same code that TOTAL SE has defined as the members of the TOTAL Executive Committee ("COMEX").

As of December 31, 2020, the Group Executive Officers are the members of the Executive Committee, i.e. eight people.

As of December 31, 2019, the Group Executive Officers included the members of the Executive Committee and the four directors of the corporate functions members of the Group Performance Management Committee (Communication, Legal, Health, Safety and Environment, Investor relations), and the Group Treasurer, i.e. thirteen people.

There are three employees members of the Board of Directors on December 31, 2020. They were two on December 31, 2019. The increase in the number of employees members results from the appointment of a second director representing employees on the Board of Directors in accordance with the French “Pacte law” of May 22, 2019.

For the year ended December 31, (M$)	2020	2019	2018
Number of people	11	15	15
Direct or indirect compensation	12.6	15.0	17.7
Pension expenses [(a)]	1.5	(4.9)	2.5
Share-based payments expense (IFRS 2) [(b)]	7.2	8.7	12.6

(a) The benefits provided for executive officers of the Group and the members of the Board of Directors, who are employees of the Group, include severance to be paid upon retirement, supplementary pension schemes and insurance plans, which represent a commitment of $129.0 million as of December 31, 2020 (against $113.3 million as of December 31, 2019 and $117.0 million as of December 31, 2018). Converted into Euros, this commitment amounts to €105.2 million as of December 31, 2020 (against €100.8 million as of December 31, 2019 and €102.2 million as of December 31, 2018).

(b) Share-based payments expense computed for the executive officers and the members of the Board of Directors who are employees of the Group and based on the principles of IFRS 2 "Share-based payments" described in Note 9.

Restating the 2019 and 2018 data, to the scope of the Group of executive officers as defined in 2020, the detail of the compensation is as follows:

For the year ended December 31, (M$)	2020	2019	2018
Number of people	11	10	9
Direct or indirect compensation	12.6	12.0	14.0
Pension expenses	1.5	(2.4)	1.4
Share-based payments expense (IFRS2)	7.2	7.7	12.1

The compensation allocated to members of the Board of Directors as directors' fees totaled $1.44 million in 2020 ($1.57 million in 2019 and $1.65 million in 2018).

9) Shareholders' equity and share-based payments

9.1) Shareholders' equity

Number of TOTAL shares and rights attached

As of December 31, 2020, the share capital of TOTAL SE amounts to €6,632,810,062.50, divided into 2,653,124,025 shares, with a par value of €2.50. There is only one category of shares. The shares may be held in either registered or bearer form.

The authorized share capital amounts to 3,668,371,962 shares as of December 31, 2020 compared to 3,593,399,547 shares as of December 31, 2019 and 3,669,077,772 shares as of December 31, 2018.

A double voting right is assigned to shares that are fully-paid and held in registered form in the name of the same shareholder for at least two years, with due consideration for the total portion of the share capital represented. A double voting right is also assigned, in the event of an increase in share capital by incorporation of reserves, profits or premiums, to registered shares granted for free to a shareholder due to shares already held that are entitled to this right.

Pursuant to the Company's bylaws (Statutes), no shareholder may cast a vote at a Shareholders' Meeting, either by himself or through an agent, representing more than 10% of the total voting rights for the Company's shares. This limit applies to the aggregated amount of voting rights held directly, indirectly or through voting proxies. However, in the case of double voting rights, this limit may be extended up to 20% of the total voting rights for the Company's shares.

These restrictions no longer apply if any individual or entity, acting alone or in concert, acquires at least two-thirds of the total share capital of the Company, directly or indirectly, following a public tender offer for all of the Company's shares.

Share cancellation

The Board of Directors, pursuant to the authorization granted by the Extraordinary Shareholders' Meeting on May 26, 2017, in the thirteenth resolution to reduce, on one or more occasions, the Company's share capital by cancelling shares, in accordance with the provisions of Articles L. 225-209 and L. 225-213 of the French Commercial Code, has proceeded with the following cancellation of TOTAL shares:

Fiscal year	**Board of Directors' decision date**	**Number of shares bought back and cancelled**	**Buybacks for the purpose of**		**Percentage of the share capital cancelled**[c]
			cancellation of the dilution[a]	the shareholder return policy[b]	
2020			n/a[d]		
2019	December 11, 2019	65,109,435 shares bought back between October 29, 2018 and September 9, 2019	34,860,133 shares issued as payment for the 1st, 2nd and 3rd 2018 interim dividends	30,249,302 shares	2.44%
2018	December 12, 2018	44,590,699 shares bought back between February 9 and October 11, 2018	28,445,840 shares issued as payment for the 2nd and 3rd interim dividends as well as for the final 2017 dividends	16,144,859 shares	1.66%

(a) Cancellation of the dilution for the shares issued, without discount, for the scrip dividend.
(b) Within the framework of the $5 billion share buyback program over the 2018-2020 period. On March 23, 2020, in the context of the COVID-19 pandemic and the fall in the oil prices, TOTAL SE announced the suspension of its buyback programme. The Company had previously announced a $2 billion share buyback target for 2020 in a 60 $/b environment and has bought back $554 million.
(c) Percentage of the share capital that the cancelled shares represented on the operations' date.
(d) TOTAL SE did not cancel any shares in the fiscal year 2020.

Variation of the number of shares composing the share capital

As of December 31, 2017 [(a)]		**2,528,989,616**
	2018 Capital increase reserved for employees	9,354,889
	Capital increase as payment of the scrip dividend (second, third interim and final 2017 dividend, as well as the first 2018 interim dividend)	47,229,037
	Exercise of TOTAL share subscription options	2,096,571
	Capital increase in consideration for the acquisition of Maersk Olie og Gas A/S	97,522,593
	Capital reduction by cancellation of treasury shares	(44,590,699)
As of December 31, 2018 [(b)]		**2,640,602,007**
	2019 Capital increase reserved for employees	10,047,337
	Capital increase as payment of the scrip dividend (second and third 2018 interim dividend)	16,076,936
	Exercise of TOTAL share subscription options	264,230
	Capital reduction by cancellation of treasury shares	(65,109,435)
As of December 31, 2019 [(c)]		**2,601,881,075**
	Deferred contribution pursuant to the 2015 capital increase reserved for employees	18,879
	2020 Capital increase reserved for employees	13,160,383
	Capital increase as payment of the scrip dividend (final 2019 dividend)	38,063,688
As of December 31, 2020 [(d)]		**2,653,124,025**

(a) Including 8,376,756 treasury shares deducted from consolidated shareholders' equity.

(b) Including 32,473,281 treasury shares deducted from consolidated shareholders' equity.

(c) Including 15,474,234 treasury shares deducted from consolidated shareholders' equity.

(d) Including 24,392,703 treasury shares deducted from consolidated shareholders' equity.

Capital increase reserved for Group employees

The Extraordinary General Meeting ("EGM") of May 29, 2020, in its twentieth resolution, granted the authority to the Board of Directors to carry out, a capital increase, in one or more occasions within a maximum period of twenty-six months, reserved to members (employees and retirees) of a company or group savings plan of the Company ("ESOP").

In fiscal year 2020, the Board of Directors of September 16, 2020, by virtue of the twentieth resolution above-mentioned, decided to proceed with a capital increase reserved for Group employees and retirees within the limit of 18 million shares with immediate dividend rights. On this occasion, the Board of Directors has granted all powers to the Chairman and Chief Executive Officer to determine the opening and closing dates of the subscription period and the subscription price. This capital increase is expected to be completed after the General Meeting of May 28, 2021.

During the fiscal years 2018, 2019 and 2020, the Company completed the following ESOP, which terms are set out below:

Fiscal year	**2020**	**2019**	**2018**
Date of the ESOP	June 11, 2020	June 6, 2019	May 3, 2018
By virtue of	18th resolution of the EGM of June 1, 2018	18th resolution of the EGM of June 1, 2018	23rd resolution of the EGM of May 24, 2016
Subscriptions			
Number of shares subscribed	12,952,925	9,845,111	9,174,817
Subscription price	26.20 euros	40.10 euros	37.20 euros
Free shares			
Number of shares granted	207,458	202,226	180,072
By virtue of	19th resolution of the EGM of June 1, 2018	19th resolution of the EGM of June 1, 2018	24th resolution of the EGM of June 24, 2016
Deferred contribution			
Number of shares granted	1,380	5,932	6,784
Number of beneficiaries	276	1,187	1,360
End of the acquisition period	June 11, 2025	June 6, 2024	May 3, 2023

Treasury shares

Accounting policies

Treasury shares held by TOTAL SE or by its subsidiaries are deducted from consolidated shareholders' equity. Gains or losses on sales of treasury shares are excluded from the determination of net income and are recognized in shareholders' equity.

TOTAL shares held by TOTAL SE

As of December 31,	**2020**	**2019**	**2018**
Number of treasury shares held by TOTAL SE	24,392,703	15,474,234	32,473,281
Percentage of share capital	0.92%	0.59%	1.23%
Of which shares acquired with the intention to cancel them	*23,284,409*	*11,051,144*	*27,360,278*
Of which shares allocated to TOTAL share performance plans for Group employees	*1,055,446*	*4,357,324*	*5,044,817*
Of which shares intended to be allocated to new share performance or purchase options plans	*52,848*	*65,766*	*68,186*

Paid-in surplus

In accordance with French law, the paid-in surplus corresponds to premiums related to shares issuances, contributions or mergers of the parent company which can be capitalized or used to offset losses if the legal reserve has reached its minimum required level. The amount of the paid-in surplus may also be distributed subject to taxation except when it qualifies as a refund of shareholder contributions.

As of December 31, 2020, paid-in surplus relating to TOTAL SE amounted to €36,722 million (€35,415 million as of December 31, 2019 and €37,276 million as of December 31, 2018).

Reserves

Under French law, 5% of net income must be transferred to the legal reserve until the legal reserve reaches 10% of the nominal value of the share capital. This reserve cannot be distributed to the shareholders other than upon liquidation but can be used to offset losses.

If wholly distributed, the unrestricted reserves of the parent company would be taxed for an approximate amount of $492 million as of December 31, 2020 ($575 million as of December 31, 2019 and $607 million as of December 31, 2018) due to additional corporation tax applied on regulatory reserves so that they become distributable.

Earnings per share

Accounting policies

Earnings per share is calculated by dividing net income (Group share) by the weighted-average number of common shares outstanding during the period, excluding TOTAL shares held by TOTAL SE (Treasury shares) which are deducted from consolidated shareholders' equity.

Diluted earnings per share is calculated by dividing net income (Group share) by the fully-diluted weighted-average number of common shares outstanding during the period. Treasury shares held by the parent company, TOTAL SE are deducted from consolidated shareholders' equity. These shares are not considered outstanding for purposes of this calculation which also takes into account the dilutive effect of share subscription or purchase options plans, share grants and capital increases with a subscription period closing after the end of the fiscal year.

The weighted-average number of fully-diluted shares is calculated in accordance with the treasury stock method provided for by IAS 33. The proceeds, which would be recovered in the event of an exercise of rights related to dilutive instruments, are presumed to be a share buyback at the average market price over the period. The number of shares thereby obtained leads to a reduction in the total number of shares that would result from the exercise of rights.

In compliance with IAS 33, earnings per share and diluted earnings per share are based on the net income after deduction of the remuneration due to the holders of deeply subordinated notes.

The variation of both weighted-average number of shares and weighted-average number of diluted shares respectively, as of December 31, respectively used in the calculation of earnings per share and fully-diluted earnings per share is detailed as follows:

	2020	2019	2018
Number of shares as of January 1,	**2,601,881,075**	**2,640,602,007**	**2,528,989,616**
TOTAL shares held by TOTAL SE or by its subsidiaries and deducted from shareholders' equity	(15,474,234)	(32,473,281)	(8,376,756)
Evolution of the number of shares during the financial year (pro-rated)			
Exercise of TOTAL share subscription options	-	157,153	1,351,465
Final grant of TOTAL performance shares	2,154,064	2,140,576	2,039,729
Capital increase reserved for employees	7,689,476	5,860,947	6,236,593
Capital increase as payment of the scrip dividend	17,445,857	12,360,894	26,352,572
Capital increase in consideration for the acquisition of Maersk Olie og Gas A/S	-	-	81,268,828
Buyback of TOTAL treasury shares including:	(11,669,489)	(27,026,481)	(30,405,112)
Shares repurchased in during the fiscal year to cancel the dilution caused by the scrip dividend payment and within the framework of the share buyback program	*(10,666,710)*	*(24,818,443)*	*(30,102,242)*
Shares repurchased in during the fiscal year to cover for the performance share plans	*(1,002,779)*	*(2,208,038)*	*(302,870)*
Weighted-average number of shares	**2,602,026,749**	**2,601,621,815**	**2,607,456,934**
Dilutive effect			
Grant of TOTAL share subscription or purchase options	-	33,636	296,830
Grant of TOTAL performance shares	-	14,593,030	13,794,896
Capital increase reserved for employees[(a)]	-	1,759,407	2,167,784
Weighted-average number of diluted shares as of December 31,[(b)]	**2,602,026,749**	**2,618,007,888**	**2,623,716,444**

(a) Including the capital increase in consideration to the deferred contribution pursuant to the capital increase reserved for employees.

(b) In 2020, the effect generated by the grant of TOTAL performance shares and by the capital increase reserved for employees (19,007,836 shares) is anti-dilutive. In accordance with IAS 33, the weighted-average number of diluted shares is therefore equal to the weighted-average number of shares.

Earnings per share in euros

The earnings per share in euros, converted from the earnings per share in dollars, by using the average exchange rate euro/dollar, is €(2.54) per share for 2020 closing (€3.75 for 2019 closing). The fully-diluted earnings per share calculated by using the same method is €(2.54) per share for 2020 closing (€3.72 for 2019 closing).

Dividend

The Board of Directors, on February 8, 2021, after approving the financial statements for the 2020 fiscal year, decided to propose to the Shareholders' Meeting on May 28, 2021 the payment of a €2.64 dividend per share for the fiscal year 2020. Subject to the Shareholders' decision, considering the first three interim dividends already decided by the Board of Directors, the final dividend for the fiscal year 2020 will be €0.66 per share.

2020 Dividend	First interim	Second interim	Third interim	Final
Amount	€0.66	€0.66	€0.66	€0.66
Set date	May 4, 2020	July 29, 2020	October 29, 2020	May 28, 2021
Ex-dividend date	September 25, 2020	January 4, 2021	March 25, 2021	June 24, 2021
Payment date	October 2, 2020	January 11, 2021	April 1, 2021	July 1, 2021

Issuances of perpetual subordinated notes

On 25 January 2021, TOTAL SE issued two tranches of perpetual subordinated notes in euro:

- Deeply subordinated notes 1.625% perpetual maturity callable after 7 years (€1,500 million); and
- Deeply subordinated notes 2.125% perpetual maturity callable after 12 years (€1,500 million).

In 2020, TOTAL SE issued perpetual subordinated notes in euro:

- Deeply subordinated notes 2.000% perpetual maturity callable after 10 years (€1,000 million).

In parallel with this issuance, TOTAL SE partially tendered perpetual 2.250% subordinated notes issued in 2015 (of which the outstanding nominal amount before the operation was €1,000 million following a first partial tender executed in April 2019) for an amount of €703 million. Following this transaction, the new nominal amount of the tendered tranche was €297 million and the Group's total outstanding amount of perpetual subordinated notes rose temporarily by €297 million. This residual amount was fully repaid in February 2021 on its first call date.

In 2019, TOTAL SE issued perpetual subordinated notes in euro:

- Deeply subordinated notes 1.750% perpetual maturity callable after 5 years (€1,500 million).

In parallel with this issuance, TOTAL SE partially tendered perpetual 2.250% subordinated notes issued in 2015 for an amount of €1,500 million. Following this transaction, the new nominal amount of the tranche tendered was €1,000 million and the Group's total outstanding amount of perpetual subordinated notes remained unchanged.

In 2018 and 2017, TOTAL SE did not issue any perpetual subordinated notes.

In 2016, TOTAL SE issued three tranches of perpetual subordinated notes in euro:

- Deeply subordinated notes 3.875% perpetual maturity callable after 6 years (€1,750 million);
- Deeply subordinated notes 2.708% perpetual maturity callable after 6.6 years (€1,000 million); and
- Deeply subordinated notes 3.369% perpetual maturity callable after 10 years (€1,500 million).

In 2015, TOTAL SE issued two tranches of perpetual subordinated notes in euro:

- Deeply subordinated notes 2.250% perpetual maturity callable after 6 years (€2,500 million); and
- Deeply subordinated notes 2.625% perpetual maturity callable after 10 years (€2,500 million).

Based on their characteristics (mainly no mandatory repayment and no obligation to pay a coupon except under certain circumstances specified into the documentation of the notes) and in compliance with IAS 32 standard – *Financial instruments - Presentation*, these notes were recorded in equity.

As of December 31, 2020, the amount of perpetual deeply subordinated notes booked in the Group shareholders' equity is $10,667 million. The coupons attributable to the holders of these securities are recognized as a deduction from the Group shareholders' equity for an amount of $308 million for fiscal year 2020 closing. The tax saving due to these coupons is booked in the statement of income.

Other comprehensive income

Detail of other comprehensive income showing both items potentially reclassifiable and those not potentially reclassifiable from equity to net income is presented in the table below:

For the year ended December 31,

(M$)	**2020**		**2019**		**2018**	
Actuarial gains and losses		(212)		(192)		(12)
Change in fair value of investments in equity instruments		533		142		-
Tax effect		65		53		13
Currency translation adjustment generated by the parent company		7,541		(1,533)		(4,022)
Sub-total items not potentially reclassifiable to profit & loss		**7,927**		**(1,530)**		**(4,021)**
Currency translation adjustment		**(4,645)**		**740**		**1,113**
- Unrealized gain/(loss) of the period	(4,607)		800		1,238	
- Less gain/(loss) included in net income	38		60		125	
Cash flow hedge		**(313)**		**(599)**		**25**
- Unrealized gain/(loss) of the period	(175)		(552)		(94)	
- Less gain/(loss) included in net income	138		47		(119)	
Variation of foreign currency basis spread		**28**		**1**		**(80)**
- Unrealized gain/(loss) of the period	(22)		(57)		(80)	
- Less gain/(loss) included in net income	(50)		(58)		-	
Share of other comprehensive income of equity affiliates, net amount		**(1,831)**		**408**		**(540)**
- Unrealized gain/(loss) of the period	(1,841)		421		(495)	
- Less gain/(loss) included in net income	(10)		13		45	
Other		**(8)**		**(3)**		**(5)**
Tax effect		**72**		**202**		**14**
Sub-total items potentially reclassifiable to profit & loss		**(6,697)**		**749**		**527**
Total other comprehensive income, net amount		**1,230**		**(781)**		**(3,494)**

The currency translation adjustment by currency is detailed in the following table:

As of December 31, 2020 (M$)	**Total**	**Euro**	**Pound sterling**	**Ruble**	**Other currencies**
Currency translation adjustment generated by the parent company	**7,541**	7,541	-	-	-
Currency translation adjustment	**(4,645)**	(4,668)	115	(12)	(80)
Currency translation adjustment of equity affiliates	**(1,657)**	(851)	(11)	(886)	91
Total currency translation adjustment recognized in comprehensive income	**1,239**	2,022	104	(898)	11

As of December 31, 2019 (M$)	**Total**	**Euro**	**Pound sterling**	**Ruble**	**Other currencies**
Currency translation adjustment generated by the parent company	**(1,533)**	(1,533)	-	-	-
Currency translation adjustment	**740**	636	138	7	(41)
Currency translation adjustment of equity affiliates	**607**	149	(7)	530	(65)
Total currency translation adjustment recognized in comprehensive income	**(186)**	(748)	131	537	(106)

As of December 31, 2018 (M$)	**Total**	**Euro**	**Pound sterling**	**Ruble**	**Other currencies**
Currency translation adjustment generated by the parent company	**(4,022)**	(4,022)	-	-	-
Currency translation adjustment	**1,113**	1,883	(431)	(10)	(329)
Currency translation adjustment of equity affiliates	**(564)**	343	14	(805)	(116)
Total currency translation adjustment recognized in comprehensive income	**(3,473)**	(1,796)	(417)	(815)	(445)

Tax effects relating to each component of other comprehensive income are as follows:

For the year ended December 31, (M$)	2020			2019			2018		
	Pre-tax amount	Tax effect	Net amount	Pre-tax amount	Tax effect	Net amount	Pre-tax amount	Tax effect	Net amount
Actuarial gains and losses	(212)	47	(165)	(192)	55	(137)	(12)	13	1
Change in fair value of investments in equity instruments	533	18	551	142	(2)	140	-	-	-
Currency translation adjustment generated by the parent company	7,541	-	7,541	(1,533)	-	(1,533)	(4,022)	-	(4,022)
Sub-total items not potentially reclassifiable to profit & loss	**7,862**	**65**	**7,927**	**(1,583)**	**53**	**(1,530)**	**(4,034)**	**13**	**(4,021)**
Currency translation adjustment	(4,645)	-	(4,645)	740	-	740	1,113	-	1,113
Cash flow hedge	(313)	79	(234)	(599)	202	(397)	25	(6)	19
Variation of foreign currency basis spread	28	(7)	21	1	-	1	(80)	20	(60)
Share of other comprehensive income of equity affiliates, net amount	(1,831)	-	(1,831)	408	-	408	(540)	-	(540)
Other	(8)	-	(8)	(3)	-	(3)	(5)	-	(5)
Sub-total items potentially reclassifiable to profit & loss	**(6,769)**	**72**	**(6,697)**	**547**	**202**	**749**	**513**	**14**	**527**
Total other comprehensive income	**1,093**	**137**	**1,230**	**(1,036)**	**255**	**(781)**	**(3,521)**	**27**	**(3,494)**

Non-controlling interests

As of December 31, 2020, no subsidiary has non-controlling interests that would be material to the Group financial statements.

9.2) *Share-based payments*

Accounting policies

TOTAL SE may grant employees share subscription or purchase options plans, restricted share plans and offer its employees the opportunity to subscribe to reserved capital increases. These employee benefits are recognized as expenses with a corresponding credit to shareholders' equity.

The expense is equal to the fair value of the instruments granted. The expense is recognized on a straight-line basis over the period in which the advantages are acquired.

The fair value of the options is calculated using the Black-Scholes model at the grant date.

For restricted share plans, the fair value is calculated using the market price at the grant date after deducting the expected distribution rate during the vesting period.

The global cost is reduced to take into account the non-transferability over a 2-year holding period of the shares that could be awarded. The number of allocated equity instruments can be revised during the vesting period in cases of non-compliance with performance conditions, with the exception of those related to the market, or according to the rate of turnover of the beneficiaries.

The cost of employee-reserved capital increases is immediately expensed.

The cost of the capital increase reserved for employees consists of the cost related to the discount on the shares subscribed using the classic and/or the leveraged schemes, the cost of the free shares and the opportunity gain for the shares subscribed using the leveraged scheme, as applicable. This opportunity gain corresponds to the benefit of subscribing to the leveraged offer, rather than reproducing the same economic profile through the purchase of options in the market for individual investors.

The global cost is reduced to take into account the non-transferability of the shares that are subscribed by the employees over a period of five years.

A. TOTAL share subscription or purchase option plans

	2010 Plan	**2011 Plan**	**Total**	**Weighted average exercise price**
Date of the shareholders' meeting	**5/21/2010**	**5/21/2010**		
Award date [(a)]	**9/14/2010**	**9/14/2011**		
Strike price	**38.20 €**	**33.00 €**		
Expiry date	**9/14/2018**	**9/14/2019**		
Number of options				
Existing options as of January 1, 2018	**1,950,372**	**490,568**	**2,440,940**	**37.15 €**
Granted	-	-	-	-
Cancelled [(b)]	(79,139)	-	(79,139)	38.20 €
Exercised	(1,871,233)	(225,338)	(2,096,571)	37.64 €
Existing options as of January 1, 2019	**-**	**265,230**	**265,230**	**33.00 €**
Granted	-	-	-	-
Cancelled [(b)]	-	(1,000)	(1,000)	33.00 €
Exercised	-	(264,230)	(264,230)	33.00 €
Existing options as of January 1, 2020	**-**	**-**	**-**	**n/a**

(a) The grant date is the date of the Board meeting awarding the share subscription or purchase options.

(b) Out of the options canceled in 2018 and 2019, (i) 79,139 options that were not exercised expired on September 14, 2018 due to expiry of 2010 Plan and (ii) 1,000 options that were not exercised expired on September 14, 2019 due to expiry of 2011 Plan.

Options granted as part of 2010 and 2011 Plans were exercisable, subject to a presence condition, after a 2-year period from the date of the Board meeting awarding the options and have expired eight years after this date. The underlying shares were not transferable during four years from the date of grant. The transfer restriction period did not apply to employees of non-French subsidiaries as of the date of the grant, who may have transferred the underlying shares after a 2-year period from the date of the grant.

The Combined General Meeting of May 29, 2020 authorised the Board of Directors, for a period of thirty-eight months to grant share subscription or purchase options. Since the 2011 Plan, the Board of Directors has not decided any new grant of TOTAL share subscription or purchase option plan. All the option plans have expired.

B. TOTAL performance share plans

	2015	2016	2017	2018	2019	2020	Total
Date of the shareholders' meeting	**5/16/2014**	**5/24/2016**	**5/24/2016**	**5/24/2016**	**6/1/2018**	**1/6/2018**	
Award date	**7/28/2015**	**7/27/2016**	**7/26/2017**	**3/14/2018**	**3/13/2019**	**3/18/2020**	
Date of the final award (end of the vesting period)	**7/29/2018**	**7/28/2019**	**7/27/2020**	**3/15/2021**	**3/14/2022**	**3/20/2023**	
Transfer authorized as from	**7/29/2020**	**7/29/2021**	**7/28/2022**	**3/16/2023**	**3/15/2024**	**3/21/2025**	
Grant date IFRS 2 fair value	**35.90 €**	**35.37 €**	**35.57 €**	**36.22 €**	**40.11 €**	**12.40 €**	
Number of performance shares							
Outstanding as of January 1, 2018	**4,697,305**	**5,607,100**	**5,679,039**	**-**	**-**	**-**	**15,983,444**
Notified	-	-	-	6,083,145	-	-	6,083,145
Cancelled	(621,568)	(61,840)	(26,640)	(12,350)	-	-	(722,398)
Finally granted	(4,075,737)	(2,040)	(1,480)	-	-	-	(4,079,257)
Outstanding as of January 1, 2019	**-**	**5,543,220**	**5,650,919**	**6,070,795**	**-**	**-**	**17,264,934**
Notified	-	-	-	-	6,447,069	-	6,447,069
Cancelled	-	(1,267,392)	(41,220)	(41,260)	(39,246)	-	(1,389,118)
Finally granted	-	(4,275,828)	(1,840)	(1,100)	(180)	-	(4,278,948)
Outstanding as of January 1, 2020	**-**	**-**	**5,607,859**	**6,028,435**	**6,407,643**	**-**	**18,043,937**
Notified	-	-	-	-	-	6,727,352	**6,727,352**
Cancelled	-	-	(1,313,687)	(55,830)	(44,289)	(18,691)	**(1,432,497)**
Finally granted	-	-	(4,294,172)	(10,740)	(10,890)	(1,773)	**(4,317,575)**
Outstanding as of December 31, 2020	**-**	**-**	**-**	**5,961,865**	**6,352,464**	**6,706,888**	**19,021,217**

The performance shares, which are bought back by the TOTAL SE on the market, are finally granted to their beneficiaries after a 3-year vesting period, from the date of the grant. The final grant is subject to a continued employment condition as well as:

- two performance conditions for the 2015 to 2018 Plans,
- three performance conditions for the 2019 Plan, and
- four performance conditions for the 2020 Plan.

Moreover, the transfer of the performance shares finally granted will not be permitted until the end of a 2-year holding period from the date of the final grant.

2020 Plan

On March 18, 2020, the Board of Directors granted performance shares to certain employees and executive directors of the Company or Group companies, subject to the fulfilment of the continued employment condition and four performance conditions.

The presence condition applies to all shares.

The performance conditions apply differently depending of the capacity of the beneficiaries. If all shares granted to senior executives are subject to performance conditions, the grant of the first 150 shares to non-senior executive are not subject to the performance condition abovementioned, which will, nonetheless, apply to any shares granted above this threshold.

The definitive number of granted shares will be based on the TSR (Total Shareholder Return), the annual variation of the net cash flow by share in dollars, the pre-dividend organic cash breakeven, as well as the change in the greenhouse gas emissions (GHG) on operated oil & gas facilities, for fiscal years 2020, 2021 and 2022, applied as follows:

- for 1/4 of the shares, the Company will be ranked against its peers (ExxonMobil, Royal Dutch Shell, BP and Chevron) each year during the three vesting years (2020, 2021 and 2022) based on the TSR criterion of the last quarter of the year in question, the dividend being considered reinvested based on the closing price on the ex-dividend date.
- for 1/4 of the shares, the Company will be ranked each year against its peers (ExxonMobil, Royal Dutch Shell, BP and Chevron) during the three vesting years (2020, 2021 and 2022) using the annual variation in net cash flow per share criterion expressed in dollar.

Based on the ranking, a grant rate will be determined for each year for these first two criteria:

Ranking	Grant rate
1st place	180%
2nd place	130%
3rd place	80%
4th and 5th places	0%

- for 1/4 of the shares, the pre-dividend organic cash breakeven criterion will be assessed during the three vesting years (2020, 2021 and 2022) as follows. The pre-dividend organic cash breakeven is defined as the Brent price for which the operating cash flow before working capital changes covers the organic investments. The ability of the Group to resist to the variations of the Brent barrel price is measured by this parameter.
  - the maximum grant rate will be reached if the breakeven is less than or equal to $30/b,
  - the grant rate will be zero if the breakeven is greater than or equal to $40/b,
  - the interpolations will be linear between these two points of reference.
- for 1/4 of the shares, the change in the GHG on operated oil & gas facilities will be assessed each year as regard to the achievement of the target to reduce the GHG emissions (Scope 1 and Scope 2) set for fiscal years 2020, 2021 and 2022 and corresponding to 43 Mt CO_2e for 2020, 42.4 Mt CO_2e for 2021 and 41.8 Mt CO_2e for 2022.
  - the maximum grant rate will be reached if the GHG emissions (Scope 1 and Scope 2) on operated oil & gas facilities target has been achieved,
  - the grant rate will be zero if the GHG emissions of the year considered are 1 Mt CO_2e above the set target,
  - the interpolations will be linear between these points of reference.

A grant rate will be determined for each year.

For each of the four criteria, the average of the three grant rates obtained (for each of the three fiscal years for which the performance conditions are assessed) will be rounded to the nearest 0.1 whole percent (0.05% being rounded to 0.1%) and capped at 100%.

Each criterion will have a weight of 1/4 in the definitive grant rate. The definitive grant rate will also be rounded to the nearest 0.1 whole percent (0.05% being rounded to 0.1%). The number of shares definitively granted, after confirmation of the performance conditions, will be rounded up to the nearest whole number of shares in case of a fractional share.

C. SunPower Plans

During fiscal year 2020, SunPower had one stock incentive plan: the SunPower Corporation 2015 Omnibus Incentive Plan ("2015 Plan"). The 2015 Plan was adopted by SunPower's Board of Directors in February 2015 and approved by shareholders in June 2015. The 2015 Plan allows for the grant of options, as well as grant of stock appreciation rights, restricted stock grants, restricted stock units and other equity rights. The 2015 Plan also allows for tax withholding obligations related to stock option exercises or restricted stock awards to be satisfied through the retention of shares otherwise released upon vesting.

The 2015 Plan includes an automatic annual increase mechanism equal to the lower of three percent of the outstanding shares of all classes of SunPower's common stock measured on the last day of the immediately preceding fiscal year, 6 million shares, or such other number of shares as determined by SunPower's Board of Directors. In fiscal year 2015, SunPower's Board of Directors voted to reduce the stock incentive plan's automatic increase from 3% to 2% for 2016. As of December 31, 2020, approximately 18.0 million shares were available for grant under the 2015 Plan.

Incentive stock options, nonstatutory stock options, and stock appreciation rights may be granted at no less than the fair value of the common stock on the date of grant. The options and rights become exercisable when and as determined by SunPower's Board of Directors, although these terms generally do not exceed ten years for stock options. SunPower has not granted stock options since fiscal year 2008. All previously granted stock options have been exercised or expired and accordingly no options remain outstanding. Under the 2015 Plan, the restricted stock grants and restricted stock units typically vest in equal installments annually over three or four years.

The majority of shares issued are net of the minimum statutory withholding requirements that SunPower pays on behalf of its employees. During fiscal years 2020, 2019, and 2018, SunPower withheld 1.3 million, 0.8 million, and 0.7 million shares, respectively, to satisfy the employees' tax obligations. SunPower pays such withholding requirements in cash to the appropriate taxing authorities. Shares withheld are treated as common stock repurchases for accounting and disclosure purposes and reduce the number of shares outstanding upon vesting.

There were no options outstanding and exercisable as of December 31, 2020. The intrinsic value of the options exercised in fiscal years 2020, 2019, and 2018, were zero. There were no stock options granted in fiscal years 2020, 2019, and 2018.

The following table summarizes SunPower's restricted stock activities:

	Restricted Stock Awards and Units	
	Shares (in thousands)	Weighted-Average Grant Date Fair Value Per Share (in dollars)[a]
Outstanding as of January 1st, 2018	**7,293**	**11.83**
Granted	4,449	7.77
Vested [b]	(2,266)	14.45
Forfeited	(1,816)	10.10
Outstanding as of January 1st, 2019	**7,660**	**9.11**
Granted	5,430	6.82
Vested [b]	(2,460)	9.65
Forfeited	(1,304)	8.28
Outstanding as of January 1st, 2020	**9,326**	**7.75**
Granted	12,797	11.10
Vested [b]	(3,596)	9.88
Forfeited	(11,360)	7.07
Outstanding as of December 31, 2020	**7,167**	**13.75**

(a) SunPower estimates the fair value of the restricted stock unit awards as the stock price on the grant date.

(b) Restricted stock awards and units vested include shares withheld on behalf of employees to satisfy the minimum statutory tax withholding requirements.

D. Share-based payment expense

Share-based payment expense before tax was broken down as follows:

As of December 31, (M$)	2020	2019	2018
Total restricted shares plans	176	180	264
SunPower plans	26	26	21
Capital increase reserved for employees	12	27	30
Total	**214**	**233**	**315**

The main assumptions used for the valuation of the cost of the capital increase reserved for employees in 2020 were the following:

For the year ended December 31,	2020
Date of the Board of Directors meeting that decided the issue	September 18, 2019
Reference price (€) [(a)]	32.75
Subscription price (€) [(b)]	26.20
Number of shares issued (in millions) [(c)]	13.16
Risk free interest rate over five years (%)	(0.392)
Employees loan financing rate (%) [(d)]	4.73
Non transferability cost (% of the reference's share price)	19.27

(a) Average of the closing prices of the TOTAL shares over the twenty trading sessions preceding April 29th, 2020, being the date of the Chairman and CEO's decision setting the price and opening date of the subscription period.

(b) Reference price, reduced by a 20% discount and rounded off to the highest tenth of a euro.

(c) Including the free shares issued.

(d) Average of 5 year consumer's credit rates.

10) Payroll, staff and employee benefits obligations

10.1) Employee benefits obligations

Accounting policies

In accordance with the laws and practices of each country, the Group participates in employee benefit plans offering retirement, death and disability, healthcare and special termination benefits. These plans provide benefits based on various factors such as length of service, salaries, and contributions made to the governmental bodies responsible for the payment of benefits.

These plans can be either defined contribution or defined benefit pension plans and may be entirely or partially funded with investments made in various non-Group instruments such as mutual funds, insurance contracts, and other instruments.

For defined contribution plans, expenses correspond to the contributions paid.

Defined benefit obligations are determined according to the Projected Unit Method. Actuarial gains and losses may arise from differences between actuarial valuation and projected commitments (depending on new calculations or assumptions) and between projected and actual return of plan assets. Such gains and losses are recognized in the statement of comprehensive income, with no possibility to subsequently recycle them to the income statement.

The past service cost is recorded immediately in the statement of income, whether vested or unvested.

The net periodic pension cost is recognized under “Other operating expenses”.

Liabilities for employee benefits obligations consist of the following:

As of December 31, (M$)	**2020**	**2019**	**2018**
Pension benefits liabilities	3,111	2,651	2,545
Other benefits liabilities	700	742	669
Restructuring reserves (early retirement plans)	106	108	149
Total	**3,917**	**3,501**	**3,363**
Net liabilities relating to assets held for sale	1	-	-

Description of plans and risk management

The Group operates, for the benefit of its current and former employees, both defined benefit plans and defined contribution plans.

The Group recognized a charge of $135 million for defined contribution plans in 2020 ($133 million in 2019 and $130 million in 2018).

The Group's main defined benefit pension plans are located in France, the United Kingdom, the United States, Belgium and Germany. Their main characteristics, depending on the country-specific regulatory environment, are the following:

- the benefits are usually based on the final salary and seniority;
- they are usually funded (pension fund or insurer);
- they are usually closed to new employees who benefit from defined contribution pension plans;
- they are paid in annuity or in lump sum.

The pension benefits include also termination indemnities and early retirement benefits. The other benefits are employer contributions to post-employment medical care.

In order to manage the inherent risks, the Group has implemented a dedicated governance framework to ensure the supervision of the different plans. These governance rules provide for:

- the Group's representation in key governance bodies or monitoring committees;
- the principles of the funding policy;
- the general investment policy, including for most plans:
  - the establishment of a monitoring committee to define and follow the investment strategy and performance,
  - the principles in respect of investment allocation are respected;
- a procedure to approve the establishment of new plans or the amendment of existing plans;
- the principles of administration, communication and reporting.

Change in benefit obligations and plan assets

The fair value of the defined benefit obligation and plan assets in the Consolidated Financial Statements is detailed as follows:

As of December 31,	Pension benefits			Other benefits		
(M$)	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**
Change in benefit obligation						
Benefit obligation at beginning of year	12,285	11,501	12,872	742	669	705
Current service cost	244	214	236	19	13	14
Interest cost	217	295	296	11	17	17
Past service cost	-	4	(1)	-	-	(2)
Settlements	(10)	(20)	(141)	(3)	(9)	-
Plan participants' contributions	10	7	8	-	-	-
Benefits paid	(702)	(667)	(902)	(27)	(26)	(28)
Actuarial losses / (gains)	818	847	(372)	(89)	87	(29)
Foreign currency translation and other	729	104	(495)	47	(9)	(8)
Benefit obligation at year-end	**13,591**	**12,285**	**11,501**	**700**	**742**	**669**
Of which plans entirely or partially funded	12,830	11,584	10,864	-	-	-
Of which plans not funded	761	701	637	700	742	669
Change in fair value of plan assets						
Fair value of plan assets at beginning of year	(9,769)	(9,145)	(10,205)	-	-	-
Interest income	(191)	(255)	(261)	-	-	-
Actuarial losses / (gains)	(517)	(745)	424	-	-	-
Settlements	2	11	129	-	-	-
Plan participants' contributions	(10)	(7)	(8)	-	-	-
Employer contributions	(229)	(172)	(417)	-	-	-
Benefits paid	622	573	778	-	-	-
Foreign currency translation and other	(488)	(29)	415	-	-	-
Fair value of plan assets at year-end	**(10,580)**	**(9,769)**	**(9,145)**	**-**	**-**	**-**
Unfunded status	**3,011**	**2,516**	**2,356**	**700**	**742**	**669**
Asset ceiling	36	34	28	-	-	-
Net recognized amount	**3,047**	**2,550**	**2,384**	**700**	**742**	**669**
Pension benefits and other benefits liabilities	3,111	2,651	2,545	700	742	669
Other non-current assets	(65)	(101)	(161)	-	-	-
Net benefit liabilities relating to assets held for sale	1	-	-	-	-	-

As of December 31, 2020, the contribution from the main geographical areas for the net pension liability in the balance sheet is: 69% for the Euro area, 15% for the United Kingdom and 12% for the United States.

The amounts recognized in the consolidated income statement and the consolidated statement of comprehensive income for defined benefit plans are detailed as follows:

For the year ended December 31,	Pension benefits			Other benefits		
(M$)	2020	2019	2018	2020	2019	2018
Current service cost	244	214	236	19	13	14
Past service cost	-	4	(1)	-	-	(2)
Settlements	(7)	(10)	(12)	(3)	(9)	-
Net interest cost	25	39	35	11	17	17
Benefit amounts recognized on Profit & Loss	**262**	**247**	**258**	**27**	**21**	**29**
- Actuarial (Gains) / Losses						
* Effect of changes in demographic assumptions	(12)	(166)	(1)	(3)	(2)	(21)
* Effect of changes in financial assumptions	773	1,071	(354)	(1)	89	(3)
* Effect of experience adjustments	57	(59)	(17)	(85)	-	(5)
* Actual return on plan assets	(517)	(745)	424	-	-	-
- Effect of asset ceiling	-	3	(11)	-	-	-
Benefit amounts recognized on Equity	**301**	**104**	**41**	**(89)**	**87**	**(29)**
Total benefit amounts recognized on comprehensive income	**563**	**351**	**299**	**(62)**	**108**	**-**

Expected future cash outflows

The average duration of accrued benefits is approximately 14 years for defined pension benefits and 17 years for other benefits. The Group expects to pay contributions of $228 million in respect of funded pension plans in 2021.

Estimated future benefits either financed from plan assets or directly paid by the employer are detailed as follows:

Estimated future payments

(M$)	Pension benefits	Other benefits
2021	874	37
2022	502	29
2023	426	28
2024	405	26
2025	392	26
2026-2030	2,243	130

Type of assets

Asset allocation	Pension benefits		
As of December 31,	**2020**	**2019**	**2018**
Equity securities	25%	25%	24%
Debt securities	45%	46%	47%
Monetary	2%	1%	1%
Annuity contracts	20%	20%	20%
Real estate	8%	8%	8%

Investments on equity and debt markets are quoted on active markets.

Main actuarial assumptions and sensitivity analysis

Assumptions used to determine benefits obligations	**Pension benefits**			**Other benefits**		
As of December 31,	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**
Discount rate (weighted average for all regions)	***1.28%***	***1.84%***	***2.68%***	***1.41%***	***1.71%***	***2.56%***
Of which Euro zone	*0.52%*	*0.73%*	*1.72%*	*0.68%*	*0.94%*	*1.87%*
Of which United States	*2.50%*	*3.25%*	*4.00%*	*2.50%*	*3.25%*	*4.00%*
Of which United Kingdom	*1.50%*	*2.25%*	*3.00%*	-	-	-
Inflation rate (weighted average for all regions)	***2.06%***	***2.20%***	***2.44%***	-	-	-
Of which Euro zone	*1.24%*	*1.21%*	*1.50%*	-	-	-
Of which United States	*2.50%*	*2.50%*	*2.50%*	-	-	-
Of which United Kingdom	*3.00%*	*3.25%*	*3.50%*	-	-	-

The discount rate retained is determined by reference to the high quality rates for AA-rated corporate bonds for a duration equivalent to that of the obligations. It derives from a benchmark per monetary area of different market data at the closing date.

Sensitivity to inflation in respect of defined benefit pension plans is not material in the United States.

A 0.5% increase or decrease in discount rates – all other things being equal - would have the following approximate impact on the benefit obligation:

(M$)	**0.5% Increase**	**0.5% Decrease**
Benefit obligation as of December 31, 2020	(908)	1,001

A 0.5% increase or decrease in inflation rates – all other things being equal - would have the following approximate impact on the benefit obligation:

(M$)	**0.5% Increase**	**0.5% Decrease**
Benefit obligation as of December 31, 2020	613	(568)

10.2) Payroll and staff

For the year ended December 31,	**2020**	**2019**	**2018**
Personnel expenses (M$)			
Wages and salaries (including social charges)	8,908	8,922	9,099
Group employees at December 31,			
France (DROM COM includ.)			
• Management	14,016	13,848	13,484
• Other	21,886	22,831	22,929
International			
• Management	17,102	16,821	16,856
• Other	52,472	54,276	51,191
Total	**105,476**	**107,776**	**104,460**

The number of employees includes only employees of fully consolidated subsidiaries.

2019 and 2018 data were restated to show number of employees of France including DROM COM (overseas departments, regions and communities).

11) Income taxes

Accounting policies

Income taxes disclosed in the statement of income include current tax expenses (or income) and deferred tax expenses (or income).

Current tax expenses (or income) are the estimated amount of the tax due for the taxable income of the period.

Deferred income taxes are recorded based on the temporary differences between the carrying amounts of assets and liabilities recorded in the balance sheet and their tax bases, and on carry-forwards of unused tax losses and other tax credits.

Deferred tax assets and liabilities are measured using the tax rates that have been enacted or substantially enacted at the balance sheet date. The tax rates used depend on the timing of reversals of temporary differences, tax losses and other tax credits. The effect of a change in tax rate is recognized either in the Consolidated Statement of Income or in shareholders' equity depending on the item it relates to.

Deferred tax resulting from temporary differences between the carrying amounts of equity-method investments and their tax bases are recognized. The deferred tax calculation is based on the expected future tax effect (dividend distribution rate or tax rate on capital gains).

Income taxes are detailed as follows:

For the year ended December 31, (M$)	**2020**	**2019**	**2018**
Current income taxes	(2,450)	(5,469)	(6,971)
Deferred income taxes	2,132	(403)	455
Total income taxes	**(318)**	**(5,872)**	**(6,516)**

Before netting deferred tax assets and liabilities by fiscal entity, the components of deferred tax balances are as follows:

As of December 31, (M$)	**2020**	**2019**	**2018**
Net operating losses and tax carry forwards	5,106	3,752	3,779
Employee benefits	1,004	970	995
Other temporary non-deductible provisions	9,068	8,660	8,409
Differences in depreciations	(14,641)	(16,029)	(15,469)
Other temporary tax deductions	(3,847)	(2,995)	(2,541)
Net deferred tax liability	**(3,310)**	**(5,642)**	**(4,827)**

The reserves of TOTAL subsidiaries that would be taxable if distributed but for which no distribution is planned, and for which no deferred tax liability has therefore been recognized, totaled $10,155 million as of December 31, 2020.

Deferred tax assets not recognized as of December 31, 2020 amount to $4,631 million as their future recovery was not regarded as probable given the expected results of the entities. Particularly in the Exploration & Production segment, when the affiliate or the field concerned is in its exploration phase, the net operating losses created during this phase will be useable only if a final investment and development decision is made. Accordingly, the time limit for the utilization of those net operating losses is not known.

Deferred tax assets not recognized relate notably to Canada for an amount of $1,371 million, to France for an amount of $1,197 million and to United States for an amount of $307 million.

After netting deferred tax assets and liabilities by fiscal entity, deferred taxes are presented on the balance sheet as follows:

As of December 31, (M$)	2020	2019	2018
Deferred tax assets	7,016	6,216	6,663
Deferred tax liabilities	(10,326)	(11,858)	(11,490)
Net amount	**(3,310)**	**(5,642)**	**(4,827)**

The net deferred tax variation in the balance sheet is analyzed as follows:

As of December 31, (M$)	2020	2019	2018
Opening balance	**(5,642)**	**(4,827)**	**(5,622)**
Deferred tax on income	2,132	(403)	455
Deferred tax on shareholders' equity [(a)]	137	255	27
Changes in scope of consolidation and others	76	(695)	151
Currency translation adjustment	(13)	28	162
Closing balance	**(3,310)**	**(5,642)**	**(4,827)**

(a) This amount includes mainly deferred taxes on actuarial gains and losses, current income taxes and deferred taxes for changes in fair value of investments inequity instruments, as well as deferred taxes related to the cash flow hedge (see Note 9 to the Consolidated Financial Statements).

Reconciliation between provision for income taxes and pre-tax income:

For the year ended December 31, (M$)	2020	2019	2018
Consolidated net income	(7,336)	11,438	11,550
Income taxes	318	5,872	6,516
Pre-tax income	**(7,018)**	**17,310**	**18,066**
French statutory tax rate	32.02%	34.43%	34.43%
Theoretical tax charge	**2,247**	**(5,960)**	**(6,220)**
Difference between French and foreign income tax rates	(1,109)	(2,007)	(3,058)
Tax effect of equity in income (loss) of affiliates	145	1,173	1,080
Permanent differences	665	1,422	1,740
Adjustments on prior years income taxes	(31)	12	(40)
Adjustments on deferred tax related to changes in tax rates	(204)	(270)	2
Variation of deferred tax assets not recognized	(2,031)	(242)	(20)
Income taxes in the statement of income	**(318)**	**(5,872)**	**(6,516)**

The French statutory tax rate includes the standard corporate tax rate (31.0%), additional and exceptional applicable taxes that bring the overall tax rate to 32.02% in 2020 (versus 34.43% in 2019 and 34.43% in 2018).

Permanent differences are mainly due to impairment of goodwill and to dividends from non-consolidated companies as well as the specific taxation rules applicable to certain activities.

Net operating losses and carried forward tax credits

Deferred tax assets related to carried forward tax credits on net operating losses expire in the following years:

As of December 31, (M$)	2020	2019	2018
2019			90
2020		71	70
2021	69	48	38
2022	26	27	32
2023[(a)]	7	19	1,423
2024[(b)]	2	1,310	
2025 and after	1,643		
Unlimited	3,359	2,277	2,126
Total	**5,106**	**3,752**	**3,779**

[(a)] 2023 and after for 2018.
[(b)] 2024 and after for 2019.

As of December 31, 2020 the schedule of deferred tax assets related to carried forward tax credits on net operating losses for the main countries is as follows:

As of December 31, 2020	Tax				
(M$)	Australia	United States	Canada	France	United Kingdom
2021					
2022					
2023					
2024			17		
2025 and after		420	1,084		
Unlimited	1,140	536		900	184
Total	**1,140**	**956**	**1,101**	**900**	**184**

12) Provisions and other non-current liabilities

12.1) Provisions and other non-current liabilities

Accounting policies

A provision is recognized when the Group has a present obligation, legal or constructive, as a result of a past event for which it is probable that an outflow of resources will be required and when a reliable estimate can be made regarding the amount of the obligation. The amount of the liability corresponds to the best possible estimate.

Provisions and non-current liabilities are comprised of liabilities for which the amount and the timing are uncertain. They arise from environmental risks, legal and tax risks, litigation and other risks.

As of December 31, (M$)	2020	2019	2018
Litigations and accrued penalty claims	320	386	736
Provisions for environmental contingencies	960	742	862
Asset retirement obligations	15,368	14,492	14,286
Other non-current provisions	2,868	2,927	3,144
of which restructuring activities	*293*	*135*	*134*
of which financial risks related to non-consolidated and equity consolidated affiliates	*134*	*130*	*100*
of which contingency reserve on solar panels warranties (SunPower)	*82*	*140*	*173*
Other non-current liabilities	1,409	2,066	2,404
Total	**20,925**	**20,613**	**21,432**

In 2020, litigation reserves amount to $320 million of which $208 million in the Exploration & Production, notably in Brazil and Angola.

In 2019, litigation reserves amounted to $386 million of which $286 million in the Exploration & Production, notably in Brazil, Angola and USA.

In 2018, litigation reserves amounted to $736 million of which $510 million was in the Exploration & Production, notably in Angola, Nigeria and Brazil.

Other non-current liabilities mainly include debts whose maturity is more than one year related to fixed assets acquisitions.

Changes in provisions and other non-current liabilities

Changes in provisions and other non-current liabilities are as follows:

(M$)	As of January, 1st	Allowances	Reversals	Currency translation adjustment	Other	As of December, 31
2020	**20,613**	**1,756**	**(1,378)**	**452**	**(518)**	**20,925**
of which asset retirement obligations		*607*	*(519)*			
of which provisions for environmental contingencies		*217*	*(93)*			
of which provisions for restructuring of activities		*271*	*(135)*			
2019	**21,432**	**1,248**	**(2,414)**	**(33)**	**380**	**20,613**
of which asset retirement obligations		*639*	*(460)*			
of which provisions for environmental contingencies		*30*	*(92)*			
of which provisions for restructuring of activities		*60*	*(122)*			
2018	**15,986**	**2,416**	**(1,378)**	**(519)**	**4,927**	**21,432**
of which asset retirement obligations		*530*	*(320)*			
of which provisions for environmental contingencies		*33*	*(111)*			
of which provisions for restructuring of activities		*149*	*(106)*			

Asset retirement obligations

Accounting policies

Asset retirement obligations, which result from a legal or constructive obligation, are recognized based on a reasonable estimate in the period in which the obligation arises.

The associated asset retirement costs are capitalized as part of the carrying amount of the underlying asset and depreciated over the useful life of this asset.

An entity is required to measure changes in the liability for an asset retirement obligation due to the passage of time (accretion) by applying a risk-free discount rate to the amount of the liability. Given the long-term nature of expenditures related to our asset retirement obligations, the rate is determined by reference to the rates of high quality AA-rated corporate bonds on the USD area for a long-term horizon. The increase of the provision due to the passage of time is recognized as "Other financial expense".

The discount rate used for the valuation of asset retirement obligation is 3% in 2020 and 4.5% in 2019 and 2018 (the expenses are estimated at current currency values with an inflation rate of 1.5% in 2020, and of 2% in 2019 and 2018).

A decrease of 0.5% of this rate would increase the asset retirement obligation by $1,442 million, with a corresponding impact in tangible assets, and with a negative impact of approximately $78 million on the following years net income. Conversely, an increase of 0.5% would have a nearly symmetrical impact compared to the effect of the decrease of 0.5%.

Changes in the asset retirement obligation are as follows:

(M$)	As of January 1,	Accretion	Revision in estimates	New obligations	Spending on existing obligations	Currency translation adjustment	Other	As of December 31,
2020	**14,492**	**607**	**526**	**87**	**(519)**	**284**	**(109)**	**15,368**
2019	14,286	639	(601)	567	(460)	47	14	14,492
2018	12,240	530	(458)	811	(320)	(364)	1,847	14,286

12.2) Other risks and contingent liabilities

TOTAL is not currently aware of any exceptional event, dispute, risks or contingent liabilities that could have a material impact on the assets and liabilities, results, financial position or operations of the Group.

13) Off balance sheet commitments and lease contracts

13.1) Off balance sheet commitments and contractual obligations

As of December 31, 2020 (M$)	**Total**	**Maturity and installment plants** Less than 1 year	Between 1 and 5 years	More than 5 years
Non-current debt obligations net of hedging instruments *(Note 15)*	48,705	-	22,745	25,960
Current portion of non-current debt obligations net of hedging instruments *(Note 15)*	4,674	4,674	-	-
Lease obligations *(Note 13.2)*	8,943	1,207	3,178	4,558
Asset retirement obligations *(Note 12)*	15,368	463	1,840	13,065
Contractual obligations recorded in the balance sheet	**77,690**	**6,344**	**27,763**	**43,583**
Lease obligations for low value assets, short term contracts or not yet commenced *(Note 13.2)*	1,745	704	626	415
Purchase obligations	143,177	11,719	39,126	92,332
Contractual obligations not recorded in the balance sheet	**144,922**	**12,423**	**39,752**	**92,747**
Total of contractual obligations	**222,612**	**18,767**	**67,515**	**136,330**
Guarantees given to customs authorities	2,312	2,189	60	63
Guarantees given on borrowings	14,164	746	3,660	9,758
Indemnities related to sales of businesses	333	179	-	154
Guarantees of current liabilities	147	68	56	23
Guarantees to customers / suppliers	19,182	2,603	1,853	14,726
Letters of credit	2,432	2,297	135	-
Other operating commitments	23,879	3,224	3,002	17,653
Total of other commitments given	**62,449**	**11,306**	**8,766**	**42,377**
Mortgages and liens received	77	28	24	25
Sales obligations	80,521	7,001	29,362	44,158
Other commitments received	20,401	15,270	1,474	3,657
Total of commitments received	**100,999**	**22,299**	**30,860**	**47,840**
Of which commitments given relating to joint ventures	*34,920*	*644*	*7,288*	*26,988*
Of which commitments given relating to associates	*51,795*	*999*	*8,664*	*42,132*

As of December 31, 2019 (M$)	**Total**	**Maturity and installment plants** Less than 1 year	Between 1 and 5 years	More than 5 years
Non-current debt obligations net of hedging instruments *(Note 15)*	40,931	-	19,888	21,043
Current portion of non-current debt obligations net of hedging instruments *(Note 15)*	5,331	5,331	-	-
Lease obligations *(Note 13.2)*	7,465	1,202	2,883	3,380
Asset retirement obligations *(Note 12)*	14,492	617	3,153	10,722
Contractual obligations recorded in the balance sheet	**68,219**	**7,150**	**25,924**	**35,145**
Lease obligations for low value assets, short term contracts or not yet commenced *(Note 13.2)*	2,077	536	879	662
Purchase obligations	147,516	10,763	38,189	98,564
Contractual obligations not recorded in the balance sheet	**149,593**	**11,299**	**39,068**	**99,226**
Total of contractual obligations	**217,812**	**18,449**	**64,992**	**134,371**
Guarantees given to customs authorities	2,012	1,876	17	119
Guarantees given on borrowings	14,510	306	7,372	6,832
Guarantees related to sales of businesses	331	163	16	152
Guarantees of current liabilities	172	79	60	33
Guarantees to customers / suppliers	12,318	1,435	2,169	8,714
Letters of credit	2,786	2,768	18	-
Other operating commitments	22,055	3,240	1,202	17,613
Total of other commitments given	**54,184**	**9,867**	**10,854**	**33,463**
Assets received as collateral (security interests)	85	23	37	25
Sales obligations	93,441	7,135	31,330	54,976
Other commitments received	22,358	16,845	1,705	3,808
Total of commitments received	**115,884**	**24,003**	**33,072**	**58,809**
Of which commitments given relating to joint ventures	*39,055*	*461*	*11,822*	*26,772*

Of which commitments given relating to associates	*31,465*	*913*	*8,381*	*22,171*

As of December 31, 2018 (M$)	**Total**	**Maturity and installments** Less than 1 year	Between 1 and 5 years	More than 5 years
Non-current debt obligations net of hedging instruments *(Note 15)*	37,784	-	19,072	18,712
Current portion of non-current debt obligations net of hedging instruments *(Note 15)*	5,027	5,027	-	-
Finance lease obligations *(Note 13.2)*	1,878	213	468	1,197
Asset retirement obligations *(Note 12)*	14,286	844	3,388	10,054
Contractual obligations recorded in the balance sheet	**58,975**	**6,084**	**22,928**	**29,963**
Operating lease obligations *(Note 13.2)*	9,130	1,644	3,691	3,795
Purchase obligations	121,119	9,708	30,652	80,759
Contractual obligations not recorded in the balance sheet	**130,249**	**11,352**	**34,343**	**84,554**
Total of contractual obligations	**189,224**	**17,436**	**57,271**	**114,517**
Guarantees given to customs authorities	2,043	1,904	12	127
Guarantees given on borrowings	18,680	169	68	18,443
Indemnities related to sales of businesses	334	165	10	159
Guarantees of current liabilities	222	83	74	65
Guarantees to customers / suppliers	8,463	1,222	847	6,394
Letters of credit	3,515	3,164	160	191
Other operating commitments	29,416	2,085	1,046	26,285
Total of other commitments given	**62,673**	**8,792**	**2,217**	**51,664**
Mortgages and liens received	84	23	33	28
Sales obligations	91,695	7,989	27,709	55,997
Other commitments received	21,565	15,527	1,328	4,710
Total of commitments received	**113,344**	**23,539**	**29,070**	**60,735**
Of which commitments given relating to joint ventures	*42,768*	*162*	*4,425*	*38,181*
Of which commitments given relating to associates	*39,437*	*773*	*8,378*	*30,286*

A. Contractual obligations

Debt obligations

“Non-current debt obligations” are included in the items “Non-current financial debt” and “Non-current financial assets” of the Consolidated Balance Sheet. It includes the non-current portion of swaps hedging bonds, and excludes non-current lease obligations of $7,736 million.

The current portion of non-current debt is included in the items “Current borrowings”, “Current financial assets” and “Other current financial liabilities” of the Consolidated Balance Sheet. It includes the current portion of swaps hedging bonds, and excludes the current portion of lease obligations of $1,207 million.

The information regarding contractual obligations linked to indebtedness is presented in Note 15 to the Consolidated Financial Statements.

Lease contracts

The information regarding leases is presented in Note 13.2 to the Consolidated Financial Statements.

Asset retirement obligations

This item represents the discounted present value of Exploration & Production and Integrated Gas, Renewables & Power asset retirement obligations, primarily asset removal costs at the completion date. The information regarding contractual obligations linked to asset retirement obligations is presented in Note 12 to the Consolidated Financial Statements.

Purchase obligations

Purchase obligations are obligations under contractual agreements to purchase goods or services, including capital projects. These obligations are enforceable and legally binding on the company and specify all significant terms, including the amount and the timing of the payments.

These obligations mainly include: unconditional hydrocarbon purchase contracts (except where an active, highly-liquid market exists and when the hydrocarbons are expected to be re-sold shortly after purchase) in the Integrated Gas, Renewables & Power segment, reservation of transport capacities in pipelines, unconditional exploration works and development works in the Exploration & Production segment, and contracts for capital investment projects in the Refining & Chemicals segment.

B. Other commitments given

Guarantees given to customs authorities

These consist of guarantees given by the Group to customs authorities in order to guarantee the payments of taxes and excise duties on the importation of oil and gas products, mostly in France.

Guarantees given on borrowings

The Group guarantees bank debt and lease obligations of certain non-consolidated subsidiaries and equity affiliates. Maturity dates vary, and guarantees will terminate on payment and/or cancellation of the obligation. A payment would be triggered by failure of the guaranteed party to fulfill its obligation covered by the guarantee, and no assets are held as collateral for these guarantees. As of December 31, 2020, the maturities of these guarantees are up to 2053.

As of December 31, 2020, the guarantees provided by TOTAL SE in connection with the financing of the Ichthys LNG project amount to $4,912 million. As of December 31, 2019, the guarantees amounted to $4,937 million.

As of December 31, 2020, the guarantees provided by TOTAL SE in connection with the financing of the Yamal LNG project for an amount of $3,250 million by TOTAL SE. As of December 31, 2019, the guarantees amounted to $3,688 million.

As of December 31, 2020, TOTAL SE has confirmed guarantees for TOTAL Refining SAUDI ARABIA SAS shareholders' advances for an amount of $1,164 million. As of December 31, 2019, the guarantees amounted to $1,184 million.

As of December 31, 2020, the guarantee given in 2008 by TOTAL SE in connection with the financing of the Yemen LNG project amounts to $509 million as in 2019.

As of December 31, 2020, guarantees provided by TOTAL SE in connection with the financing of the Bayport Polymers LLC project, amount to $1,820 million as in 2019.

Indemnities related to sales of businesses

In the ordinary course of business, the Group executes contracts involving standard indemnities for the oil industry and indemnities specific to transactions such as sales of businesses. These indemnities might include claims against any of the following: environmental, tax and shareholder matters, intellectual property rights, governmental regulations and employment-related matters, and commercial contractual relationships. Performance under these indemnities would generally be triggered by a breach of terms of the contract or by a third party claim. The Group regularly evaluates the probability of having to incur costs associated with these indemnities.

Other guarantees given

Non-consolidated subsidiaries

The Group also guarantees the current liabilities of certain non-consolidated subsidiaries. Performance under these guarantees would be triggered by a financial default of the entity.

Operating agreements

As part of normal ongoing business operations and consistent with generally accepted industry practices, the Group enters into numerous agreements with other parties. These commitments are often entered into for commercial purposes, for regulatory purposes or for other operating agreements.

C. Commitments received

Sales obligations

These amounts represent binding obligations to sell goods, including in particular hydrocarbon sales contracts (except where an active, highly-liquid market exists and when the volumes are expected to be re-sold shortly after purchase).

13.2) Lease contracts

Accounting principles

A lease contract is a contract that grants lessee the right to use an identified asset for a specified period of time in exchange for consideration. At lease inception, an asset corresponding to right of use and a debt are recognized in the lessee's balance sheet. Carrying value of right of use corresponds to present value of future lease payments plus any direct costs incurred for concluding the contract. Lease debt is recorded as a liability in the balance sheet under financial debts. Rights of use are depreciated over the useful lives applied by the Group.

Leases that are of short duration or that relate to low value assets are not recorded in the balance sheet, in accordance with the exemptions in the standard. They are presented as off-balance sheet commitments.

➢ ***First-time application of IFRS 16 "Leases"***

As part of the first application of IFRS 16 "Leases" as of January 1, 2019, the Group:

- applied the simplified retrospective transition method, accounting for the cumulative effect of the initial application of the standard at the date of first application, without restating the comparative periods;
- used the following simplification measures provided by the standard in the transitional provisions:
  - exclusion of contracts that the Group had not previously identified as containing a lease under IAS 17 and IFRIC 4,
  - exclusion of leases whose term ends within 12 months of the date of first application;
- recognized each lease component as a separate lease, separately from non-lease components of the lease (services);
- applied the two exemptions of the standard on short-term leases and leases of low-value assets.

The impact of the application of this standard as at January 1, 2019 is $5,698 million on fixed assets, $(5,505) million on net debt and $(193) million on other assets and liabilities. The weighted average incremental borrowing rate of 4.5% at transition date was determined on the basis of the initial duration of the contracts.

In 2019, the impact on fixed assets was broken down as follows:

(in M$)

Right of use of buildings	2,278
Right of use of machinery, plant and equipment (including transportation equipment)	2,632
Other right of use	788
Total	**5,698**

The Group mainly leases real estate, retail stations, ships, and other equipment (see Note 7 to the Consolidated Financial Statements).

A- Reconciliation between the operating lease commitments disclosed under IAS17 at December 31, 2018 and the additional lease liabilities (IFRS 16) recognized on the balance sheet at January 1, 2019

Reconciliation between the operating lease commitments disclosed under IAS 17 at December 31, 2018 and the additional lease liabilities (IFRS 16) recognized on the balance sheet at January 1, 2019

The reconciliation is as follows:

M$	January 1, 2019
Operating lease commitments at December 31, 2018	9,130
Commitments relating to IFRS 16 exemptions:	(417)
- Low value assets	(90)
- Short-term leases	(327)
Leases not yet commenced at January 1, 2019	(608)
Commitments relating to service component of lease contracts	(760)
Commitments relating to leases of non identified assets or substitute assets	(628)
Variable lease payments	(6)
Other impacts	204
Impact of discounting	(1,360)
Additional lease liability on contracts previously accounted for as operating leases	5,555
Finance lease liability at December 31, 2018	1,878
Total lease liability at January 1, 2019	7,433

Other information required on lease debts, notably their maturity, is presented in Note 15 to the consolidated financial statements.

B- Future minimum lease payments on leases to which the Group is committed

The future minimum lease payments on leases to which the Group is committed are as follows:

For the year ended December 31, 2020

(M$)	Exempted contracts	Leases recorded in balance sheet
2021	704	1,659
2022	252	1,366
2023	159	1,117
2024	118	1,022
2025	97	964
2026 and beyond	415	6,325
Total minimum payments	**1,745**	**12,453**
Less financial expenses		(3,510)
Nominal value of contracts		**8,943**
Less current portion of lease contracts		(1,207)
Non-current lease liabilities		**7,736**

For the year ended December 31, 2019

(M$)	Exempted contracts	Leases recorded in balance sheet
2020	536	1,586
2021	360	1,228
2022	212	1,019
2023	162	835
2024	145	766
2025 and beyond	662	4,757
Total minimum payments	**2,077**	**10,191**
Less financial expenses		(2,726)
Nominal value of contracts		**7,465**
Less current portion of lease contracts		(1,202)
Non-current lease liabilities		**6,263**

For the year ended December 31, 2018

(M$)	Operating leases	Finance leases
2019	1,644	263
2020	1,282	183
2021	967	182
2022	772	179
2023	669	179
2024 and beyond	3,796	1,826
Total minimum payments	**9,130**	**2,812**
Less financial expenses		(934)
Nominal value of contracts		**1,878**
Less current portion of finance lease contracts		(213)
Non-current finance lease liabilities		**1,665**

For the year ended December 31, 2020, rental expense recorded in the income statement and incurred under short term leases or low value assets leases and under variable lease payments is $600million and $162 million, respectively.

For the year ended December 31, 2019, rental expense recorded in the income statement and incurred under short term leases or low value assets leases and under variable lease payments was $366 million and $132 million, respectively.

Rental expense recorded in the income statement and incurred under operating leases for the year ended December 31, 2018 was $1,304 million.

14) Financial assets and liabilities analysis per instrument class and strategy

The financial assets and liabilities disclosed in the balance sheet are detailed as follows:

As of December 31, 2020
(M$)

Assets / (Liabilities)	Amortized cost	Fair value through P&L	Other Comprehensive Income	Fair value of hedging instruments	Total	Fair value
Equity affiliates: loans	5,129	-	-	-	5,129	**5,129**
Other investments	-	1,224	783	-	2,007	**2,007**
Non-current financial assets	1,019	541	-	3,221	4,781	**4,781**
Other non-current assets	2,745	-	-	-	2,745	**2,745**
Accounts receivable, net[(b)]	14,068	-	-	-	14,068	**14,068**
Other operating receivables	6,615	1,428	-	-	8,043	**8,043**
Current financial assets	4,547	65	-	18	4,630	**4,630**
Cash and cash equivalents	31,268	-	-	-	31,268	**31,268**
Total financial assets	**65,391**	**3,258**	**783**	**3,239**	**72,671**	**72,671**
Total non-financial assets					**193,461**	**-**
Total assets					**266,132**	**-**
Non-current financial debt[(a)]	(58,470)	(118)	-	(1,615)	(60,203)	**(66,210)**
Accounts payable[(b)]	(23,574)	-	-	-	(23,574)	**(23,574)**
Other operating liabilities	(10,635)	(3,666)	-	(1)	(14,302)	**(14,302)**
Current borrowings[(a)]	(17,099)	-	-	-	(17,099)	**(17,121)**
Other current financial liabilities	-	(99)	-	(104)	(203)	**(203)**
Total financial liabilities	**(109,778)**	**(3,883)**	**-**	**(1,720)**	**(115,381)**	**(121,410)**
Total non-financial liabilities					**(150,751)**	**-**
Total liabilities					**(266,132)**	**-**

(a) The financial debt is adjusted to the hedged risks value (currency and interest rate) as part of hedge accounting (see Note 15 to the Consolidated Financial Statements).

The impact of offsetting on accounts receivable, net is $(1,844) million and $1,844 million on accounts payable.

(b)

As of December 31, 2019
(M$)

Assets / (Liabilities)	Amortized cost	Fair value through P&L	Other Comprehensive Income	Fair value of hedging instruments	Total	Fair value
Equity affiliates: loans	3,999	-	-	-	3,999	**3,999**
Other investments	-	1,272	506	-	1,778	**1,778**
Non-current financial assets	164	236	-	512	912	**912**
Other non-current assets	2,314	-	-	-	2,314	**2,314**
Accounts receivable, net[b]	18,488	-	-	-	18,488	**18,488**
Other operating receivables	6,713	4,791	-	2	11,506	**11,506**
Current financial assets	3,870	122	-	-	3,992	**3,992**
Cash and cash equivalents	27,352	-	-	-	27,352	**27,352**
Total financial assets	**62,900**	**6,421**	**506**	**514**	**70,341**	**70,341**
Total non-financial assets					**202,953**	**-**
Total assets					**273,294**	**-**
Non-current financial debt[a]	(46,035)	(44)	-	(1,694)	(47,773)	**(50,921)**
Accounts payable[b]	(28,394)	-	-	-	(28,394)	**(28,394)**
Other operating liabilities	(10,927)	(5,333)	-	(2)	(16,262)	**(16,262)**
Current borrowings[a]	(14,819)	-	-	-	(14,819)	**(14,819)**
Other current financial liabilities	-	(63)	-	(424)	(487)	**(487)**
Total financial liabilities	**(100,175)**	**(5,440)**	**-**	**(2,120)**	**(107,735)**	**(110,883)**
Total non-financial liabilities					**(165,559)**	**-**
Total liabilities					**(273,294)**	**-**

(a) The financial debt is adjusted to the hedged risks value (currency and interest rate) as part of hedge accounting (see Note 15 to the Consolidated Financial Statements).

(b) The impact of offsetting on accounts receivable, net is $(2,073) million and $2,073 million on accounts payable.

As of December 31, 2018
(M$)

Assets / (Liabilities)	Amortized cost	Fair value through P&L	Fair value through OCI - equity instruments	Fair value of instruments hedge	Total	Fair value
Equity affiliates: loans	4,755	-	-	-	4,755	4,755
Other investments	-	1,059	362	-	1,421	1,421
Non-current financial assets	-	67	-	613	680	680
Other non-current assets	2,348	-	-	-	2,348	2,348
Accounts receivable, net[b]	17,270	-	-	-	17,270	17,270
Other operating receivables	6,994	2,731	-	8	9,733	9,733
Current financial assets	3,536	73	-	45	3,654	3,654
Cash and cash equivalents	27,907	-	-	-	27,907	27,907
Total financial assets	**62,810**	**3,930**	**362**	**666**	**67,768**	**67,768**
Total non-financial assets					**188,994**	
Total assets					**256,762**	
Non-current financial debt[a]	(38,220)	(29)	-	(1,880)	(40,129)	(41,281)
Accounts payable[b]	(26,134)	-	-	-	(26,134)	(26,134)
Other operating liabilities	(9,854)	(3,429)	-	(3)	(13,286)	(13,286)
Current borrowings	(13,306)	-	-	-	(13,306)	(13,306)
Other current financial liabilities	-	(183)	-	(295)	(478)	(478)
Total financial liabilities	**(87,514)**	**(3,641)**	**-**	**(2,178)**	**(93,333)**	**(94,485)**
Total non-financial liabilities					**(163,429)**	
Total liabilities					**(256,762)**	

(a) The financial debt is adjusted to the hedged risks value (currency and interest rate) as part of hedge accounting (see Note 15 to the Consolidated Financial Statements).

(b) The impact of offsetting on accounts receivable, net is $(2,903) million and $2,903 million on accounts payable.

15) Financial structure and financial costs

15.1) Financial debt and derivative financial instruments

A) Non-current financial debt and derivative financial instruments

As of December 31, 2020

(M$)

(Assets) / Liabilities	Secured	Unsecured	Total
Non-current financial debt	7,849	52,354	60,203
of which hedging instruments of non-current financial debt (liabilities)	-	*1,615*	*1,615*
Non-current financial assets	(1,019)	(3,762)	(4,781)
of which hedging instruments of non-current financial debt (assets)	-	*(3,221)*	*(3,221)*
Non-current net financial debt and related financial instruments	**6,830**	**48,592**	**55,422**
Variable rate bonds or bonds after fair value hedge	-	16,553	16,553
Fixed rate bonds or bonds after cash flow hedge	-	28,080	28,080
Other floating rate debt	40	3,944	3,984
Other fixed rate debt	73	438	511
Lease obligations	7,736	-	7,736
Non-current financial assets excluding derivative financial instruments	(1,019)	(432)	(1,451)
Non-current instruments held for trading	-	9	9
Non-current net financial debt and related financial instruments	**6,830**	**48,592**	**55,422**

As of December 31, 2019

(M$)

(Assets) / Liabilities	Secured	Unsecured	Total
Non-current financial debt	6,438	41,335	47,773
of which hedging instruments of non-current financial debt (liabilities)	-	*1,694*	*1,694*
Non-current financial assets	(164)	(748)	(912)
of which hedging instruments of non-current financial debt (assets)	-	*(512)*	*(512)*
Non-current financial debt and related financial instruments	**6,274**	**40,587**	**46,861**
Variable rate bonds or bonds after fair value hedge	-	19,340	19,340
Fixed rate bonds or bonds after cash flow hedge	-	20,499	20,499
Other floating rate debt	72	618	690
Other fixed rate debt	103	322	425
Lease obligations	6,263	-	6,263
Non-current financial assets excluding derivative financial instruments	(164)	(169)	(333)
Non-current instruments held for trading	-	(23)	(23)
Non-current financial debt and related financial instruments	**6,274**	**40,587**	**46,861**

As of December 31, 2018

(M$)

(Assets) / Liabilities	Secured	Unsecured	Total
Non-current financial debt	1,870	38,259	40,129
of which hedging instruments of non-current financial debt (liabilities)	-	*1,880*	*1,880*
Non-current financial assets	-	(680)	(680)
of which hedging instruments of non-current financial debt (assets)	-	*(613)*	*(613)*
Non-current financial debt and related financial instruments	**1,870**	**37,579**	**39,449**
	-	**-**	**-**
Variable rate bonds or bonds after fair value hedge	-	20,570	20,570
Fixed rate bonds or bonds after cash flow hedge	-	15,672	15,672
Other floating rate debt	111	621	732
Other fixed rate debt	94	754	848
Financial lease obligations	1,665	-	1,665
Non-current instruments held for trading	-	(38)	(38)
Non-current financial debt and related financial instruments	**1,870**	**37,579**	**39,449**

In April 2020, the Group put in place a new committed syndicated credit line with banking counterparties for an initial amount of USD 6,350 million and with a 12-month tenor (with the option to extend twice by a further 6 months at TOTAL's hand). As of December 31 2020, the remaining balance of the committed syndicated credit line is USD 3,646 million and is included in line item "Other floating rate debt" (in "Non-current financial debt").

The bonds, as of December 31, 2020, after taking into account currency and interest rates swaps fair value, is detailed as follows:

Bonds after fair value hedge or variable rate bonds (M$)	Currency of issuance	Amount after hedging as of December 31, 2020	Amount after hedging as of December 31, 2019	Amount after hedging as of December 31, 2018	Range of current maturities	Range of initial current rate before hedging instruments
Bond	USD	6,253	6,276	6,276	2021 - 2028	2.218% - 3.883%
Bond	USD	-	300	750		
Bond	CHF	410	410	204	2026 - 2029	0.176% - 0.298%
Bond	NZD	-	164	252		
Bond	AUD	377	378	699	2021 - 2025	4.000% - 4.250%
Bond	EUR	8,666	9,675	10,212	2021 - 2044	0.250% - 3.125%
Bond	EUR	-	1,641	1,644		
Bond	CAD	-	92	93		
Bond	GBP	1,522	2,035	1,536	2022 - 2031	1.405% - 2.250%
Bond	GBP	-	-	472		
Bond	HKD	129	128	207	2025	2.920%
Current portion (less than one year)		(2,699)	(3,661)	(3,679)		
Principal financing entities[(a)]		**14,658**	**17,438**	**18,666**		
TOTAL SE[(b)]		1,200	1,203	1,203	2022	0.500%
Other consolidated subsidiaries		695	699	701		
Total variable rate bonds or bonds after fair value hedge		**16,553**	**19,340**	**20,570**		

Bonds after cash flow hedge or fixed rate bonds (M$)	Currency of issuance	Amount after hedging as of December 31, 2020	Amount after hedging as of December 31, 2019	Amount after hedging as of December 31, 2018	Range of current maturities	Range of initial current rate before hedging instruments
Bond	EUR	15,259	10,246	9,268	2024 - 2044	0.696% - 5.125 %
Bond	USD	11,524	8,565	5,040	2021 - 2060	2.829% - 4.250%
Bond	HKD	208	202	187	2026	3.088%
Bond	CHF	1,134	1,079	1,035	2024 - 2027	0.510% - 1.010%
Bond	GBP	998	982	326	2024 - 2026	1.250% - 1.660%
Bond	AUD	9	5	-	2025	4.000%
Current portion (less than one year)		(1,500)	(1,250)	(946)		
Principal financing entities[(a)]		**27,632**	**19,829**	**14,910**		
Other consolidated subsidiaries		448	670	762		
Total bonds after cash flow hedge or fixed rate bonds		**28,080**	**20,499**	**15,672**		

(a) All debt securities issued through the following subsidiaries are fully and unconditionally guaranteed by TOTAL SE as to payment of principal, premium, if any, interest and any other amounts due:

- TOTAL CAPITAL is a wholly and directly owned subsidiary of TOTAL SE (except for one share held by each director). It acts as a financing vehicle for the Group. The repayment of its financial debt (capital, premium and interest) is fully and unconditionally guaranteed by TOTAL SE.

- TOTAL CAPITAL CANADA Ltd. is a wholly and directly owned subsidiary of TOTAL SE. It acts as a financing vehicle for the activities of the Group in Canada. The repayment of its financial debt (capital, premium and interest) is fully and unconditionally guaranteed by TOTAL SE.

- TOTAL CAPITAL INTERNATIONAL is a wholly and directly owned subsidiary of TOTAL SE (except for one share held by each director). It acts as a financing vehicle for the Group. The repayment of its financial debt (capital, premium and interest) is fully and unconditionally guaranteed by TOTAL SE.

(b) Debt financing of $1.2 billion through a structure combining the issue of cash-settled convertible bonds with the purchase of cash-settled call options to hedge TOTAL's exposure to the exercise of the conversion rights under the bonds.

Loan repayment schedule (excluding current portion)

As of December 31, 2020 (M$)	**Non-current financial debt**	***of which hedging instruments of non-current financial debt (liabilities)***	**Non-current financial assets**	***of which hedging instruments of non-current financial debt (assets)***	**Non-current financial debt and related financial instruments**	**%**
2022	9,932	*142*	(142)	*(58)*	9,790	18%
2023	5,988	*59*	(268)	*(218)*	5,720	10%
2024	6,340	*115*	(395)	*(277)*	5,945	11%
2025	4,535	*150*	(260)	*(212)*	4,275	8%
2026 and beyond	33,408	*1,149*	(3,716)	*(2,456)*	29,692	53%
Total	**60,203**	***1,615***	**(4,781)**	***(3,221)***	**55,422**	**100%**

As of December 31, 2019 (M$)	**Non-current financial debt**	***of which hedging instruments of non-current financial debt (liabilities)***	**Non-current financial assets**	***of which hedging instruments of non-current financial debt (assets)***	**Non-current financial debt and related financial instruments**	**%**
2021	5,716	*204*	(101)	*(9)*	5,615	12%
2022	6,226	*433*	(148)	*(121)*	6,078	13%
2023	5,230	*106*	(67)	*(18)*	5,163	11%
2024	5,885	*139*	(87)	*(83)*	5,798	12%
2025 and beyond	24,716	*812*	(509)	*(281)*	24,207	52%
Total	**47,773**	***1,694***	**(912)**	***(512)***	**46,861**	**100%**

As of December 31, 2018 (M$)	**Non-current financial debt**	***of which hedging instruments of non-current financial debt (liabilities)***	**Non-current financial assets**	***of which hedging instruments of non-current financial debt (assets)***	**Non-current financial debt and related financial instruments**	**%**
2020	5,442	*386*	(10)	-	5,432	14%
2021	4,042	*251*	(76)	*(57)*	3,966	10%
2022	5,262	*448*	(104)	*(104)*	5,158	13%
2023	5,020	*93*	(37)	-	4,983	13%
2024 and beyond	20,363	*702*	(453)	*(452)*	19,910	50%
Total	**40,129**	***1,880***	**(680)**	***(613)***	**39,449**	**100%**

Analysis by currency and interest rate

These analyses take into account interest rate and foreign currency swaps to hedge non-current financial debt.

As of December 31, (M$)	**2020**	**%**	**2019**	**%**	**2018**	**%**
U.S. Dollar	**48,609**	88%	**43,276**	92%	**38,120**	97%
Euro	**3,144**	6%	**2,639**	6%	**1,103**	3%
Norwegian krone	**72**	0%	**81**	0%	**27**	0%
Other currencies	**3,597**	6%	**865**	2%	**199**	0%
Total	**55,422**	**100%**	**46,861**	**100%**	**39,449**	**100%**

As of December 31, (M$)	**2020**	**%**	**2019**	**%**	**2018**	**%**
Fixed rate	**34,870**	63%	**26,985**	58%	**18,139**	46%
Floating rate	**20,552**	37%	**19,876**	42%	**21,310**	54%
Total	**55,422**	**100%**	**46,861**	**100%**	**39,449**	**100%**

B) Current financial assets and liabilities

Current borrowings consist mainly of drawings on commercial papers or treasury bills and of bank loans. These instruments bear interest at rates that are close to market rates.

As of December 31,

(M$)

(Assets) / Liabilities	**2020**	**2019**	**2018**
Current financial debt[(a)]	11,305	8,710	8,316
Current lease obligations	1,206	1,202	-
Current portion of non-current financial debt	4,588	4,907	4,990
Current borrowings *(note 14)*	**17,099**	**14,819**	**13,306**
Current portion of hedging instruments of debt (liabilities)	104	424	295
Other current financial instruments (liabilities)	99	63	183
Other current financial liabilities *(note 14)*	**203**	**487**	**478**
Current deposits beyond three months	(4,436)	(3,611)	(3,536)
Non-traded marketable securities	-	(114)	-
Financial receivables on sub-lease, current	(111)	(145)	-
Current portion of hedging instruments of debt (assets)	(18)	-	(45)
Other current financial instruments (assets)	(65)	(122)	(73)
Current financial assets *(note 14)*	**(4,630)**	**(3,992)**	**(3,654)**
Net current borrowings	**12,672**	**11,314**	**10,130**

(a) As of December 31, 2020, December 31, 2019 and December 31, 2018, the current financial debt includes a commercial paper program in Total Capital and Total Capital Canada Ltd. Total Capital and Total Capital Canada Ltd. are wholly-owned subsidiaries of TOTAL SE. They act as financing vehicles for the activities of the Group. Their debt securities are fully and unconditionally guaranteed by TOTAL SE as to payment of principal, premium, if any, interest and any other amounts due.

C) Cash flow from (used in) financing activities

The variations of financial debt are detailed as follows:

			Non-cash changes					
(M$)	As of January 1, 2020	Cash changes	Change in scope, including IFRS 5 reclassification	Foreign currency	Changes in fair value	Reclassification Non-current / Current	Other	As of December 31, 2020
Non-current financial instruments - assets (a) and non-current financial assets	(912)	(228)	3	(59)	(2,729)	118	(974)	(4,781)
Non-current financial debt	47,773	15,800	(456)	192	2,973	(8,711)	2,632	60,203
Non-current financial debt and related financial instruments	**46,861**	**15,572**	**(453)**	**133**	**244**	**(8,593)**	**1,658**	**55,422**
Current financial instruments - assets[(a)]	(268)	178	-	(6)	46	(118)	(26)	(194)
Current borrowings	14,819	(6,679)	6	(132)	188	8,711	186	17,099
Current financial instruments - liabilities[(a)]	487	-	(5)	8	(287)	-	-	203
Current financial debt and related financial instruments	**15,038**	**(6,501)**	**1**	**(130)**	**(53)**	**8,593**	**160**	**17,108**
Financial debt and financial assets classified as held for sale	301	-	(10)	22	-	-	-	313
Financial debt	**62,200**	**9,071**	**(462)**	**25**	**191**	**-**	**1,818**	**72,843**

(a) Fair value or cash flow hedge instruments and other non-hedge debt-related derivative instruments.

(M$)	As of January 1, 2019	Cash changes	Non-cash changes: Change in scope, including IFRS 5 reclassification	Non-cash changes: First application IFRS 16	Non-cash changes: Foreign currency	Non-cash changes: Changes in fair value	Non-cash changes: Reclassification Non-current / Current	Other	As of December 31, 2019
Non-current financial instruments - assets (a) and non-current financial assets	(680)	21	12	(50)	4	(71)	144	(292)	(912)
Non-current financial debt	40,129	8,110	(731)	4,805	(48)	484	(6,661)	1,685	47,773
Non-current financial debt and related financial instruments	**39,449**	**8,131**	**(719)**	**4,755**	**(44)**	**413**	**(6,517)**	**1,393**	**46,861**
Current financial instruments - assets[(a)]	(118)	125	-	-	2	(32)	(144)	(101)	(268)
Current borrowings	13,306	(5,954)	(35)	750	184	(26)	6,661	(67)	14,819
Current financial instruments - liabilities[(a)]	478	-	-	-	(6)	15	-	-	487
Current financial debt and related financial instruments	**13,666**	**(5,829)**	**(35)**	**750**	**180**	**(43)**	**6,517**	**(168)**	**15,038**
Financial debt and financial assets classified as held for sale	-	-	301	-	-	-	-	-	301
Financial debt	**53,115**	**2,302**	**(453)**	**5,505**	**136**	**370**	**-**	**1,225**	**62,200**

(a) Fair value or cash flow hedge instruments and other non-hedge debt-related derivative instruments.

(M$)	As of January 1, 2018	Cash changes	Non-cash changes: Change in scope, including IFRS 5 reclassification	Non-cash changes: Foreign currency	Non-cash changes: Changes in fair value	Non-cash changes: Reclassification Non-current / Current	Other	As of December 31, 2018
Non-current financial instruments - assets[(a)]	(679)	-	(72)	12	59	-	-	(680)
Non-current financial debt	41,340	649	4,708	(59)	62	(6,260)	(311)	40,129
Non-current financial debt and related financial instruments	**40,661**	**649**	**4,636**	**(47)**	**121**	**(6,260)**	**(311)**	**39,449**
Current financial instruments - assets[(a)]	(423)	-	-	10	295	-	-	(118)
Current borrowings	11,096	(3,990)	230	270	(514)	6,260	(46)	13,306
Current financial instruments - liabilities[(a)]	245	-	67	(11)	177	-	-	478
Current financial debt and related financial instruments	**10,918**	**(3,990)**	**297**	**269**	**(42)**	**6,260**	**(46)**	**13,666**
Financial debt classified as held for sale	-	-	-	-	-	-	-	-
Financial debt	**51,579**	**(3,341)**	**4,933**	**222**	**79**	**-**	**(357)**	**53,115**

(a) Fair value or cash flow hedge instruments and other non-hedge debt-related derivative instruments.

Monetary changes in non-current financial debt are detailed as follows:

For the year ended December 31, (M$)	**2020**	**2019**	**2018**
Issuance of non-current debt	16,075	8,668	3,938
Repayment of non-current debt	(275)	(538)	(3,289)
Net amount	**15,800**	**8,131**	**649**

D) Cash and cash equivalents

Accounting policies

Cash and cash equivalents are comprised of cash on hand and highly liquid short-term investments that are easily convertible into known amounts of cash and are subject to insignificant risks of changes in value.

Investments with maturity greater than three months and less than twelve months are shown under "Current financial assets".

Changes in current financial assets and liabilities are included in the financing activities section of the Consolidated Statement of Cash Flows.

Cash and cash equivalents are detailed as follows:

For the year ended December 31,

(M$)	2020	2019	2018
Cash	14,518	16,456	15,186
Cash equivalents	16,750	10,896	12,721
Total	**31,268**	**27,352**	**27,907**

Cash equivalents are mainly composed of deposits less than three months deposited in government institutions or deposit banks selected in accordance with strict criteria.

As of December 31, 2020, the cash and cash equivalents include $2,140 millions subject to restrictions, notably due to regulatory framework or to the fact they are owned by affiliates located in countries with exchange controls.

E) Net-debt-to-capital ratio

For its internal and external communication needs, the Group calculates a debt ratio by dividing its net financial debt excluding leases by its capital.

The ratio is calculated as follows: *Net debt excluding leases / (Equity + Net debt excluding leases)*

As of December 31,

(M$)

(Assets) / Liabilities	2020	2019	2018
Current borrowings[a]	15,893	13,617	13,093
Other current financial liabilities	203	487	478
Current financial assets[a]	(4,519)	(3,847)	(3,654)
Net financial assets and liabilities held for sale or exchange	313	301	(15)
Non-current financial debt[a]	52,467	41,510	38,464
Non-current financial assets[a]	(3,762)	(748)	(680)
Cash and cash equivalents	(31,268)	(27,352)	(27,907)
Net financial debt	**29,327**	**23,968**	**19,779**
Shareholders' equity - Group share	103,702	116,778	115,640
Non-controlling interests	2,383	2,527	2,474
Shareholders' equity	**106,085**	**119,305**	**118,114**
Net-debt-to-capital ratio excluding leases	**21.7%**	**16.7%**	**14.3%**

(a) excluding leases receivables & leases debts.

15.2) Fair value of financial instruments (excluding commodity contracts)

Accounting policies

The Group uses derivative instruments to manage its exposure to risks of changes in interest rates, foreign exchange rates and commodity prices. These financial instruments are accounted for in accordance with IFRS 9, changes in fair value of derivative instruments are recognized in the statement of income or in other comprehensive income and are recognized in the balance sheet in the accounts corresponding to their nature, according to the risk management strategy. The derivative instruments used by the Group are the following:

- *Cash management*

Financial instruments used for cash management purposes are part of a hedging strategy of currency and interest rate risks within global limits set by the Group and are considered to be held for trading. Changes in fair value are systematically recorded in the statement of income. The balance sheet value of those instruments is included in “Current financial assets” or “Other current financial liabilities”.

- *Long-term financing*

When an external long-term financing is set up, specifically to finance subsidiaries, and when this financing involves currency and interest rate derivatives, these instruments are qualified as:

1) Fair value hedge of the interest rate and currency risks on the external debt financing the loans to subsidiaries. Changes in fair value of derivatives are recognized in the statement of income, as are changes in fair value of underlying financial debts and loans to subsidiaries.

   The fair value of those hedging instruments of long-term financing is included in assets under “Non-current financial assets” or in liabilities under “Non-current financial debt “for the non-current portion. The current portion (less than one year) is accounted for in “Current financial assets” or “Other current financial liabilities”.

   In case of the anticipated termination of derivative instruments accounted for as fair value hedges, the amount paid or received is recognized in the statement of income and:

   - If this termination is due to an early cancellation of the hedged items, the adjustment previously recorded as revaluation of those hedged items is also recognized in the statement of income;
   - If the hedged items remain in the balance sheet, the adjustment previously recorded as a revaluation of those hedged items is spread over the remaining life of those items.

   In case of a change in the strategy of the hedge (fair value hedge to cash flow hedge), if the components of the initial aggregated exposure had already been designated in a hedging relationship (FVH), the Group designates the new instrument as a hedging instrument of an aggregated position (CFH) without having to end the initial hedging relationship.

2) Cash flow hedge when the Group implements a strategy of fixing interest rate and/or currency rate on the external debt. Changes in fair value are recorded in Other comprehensive Income for the effective portion of the hedging and in the statement of income for the ineffective portion of the hedging. When the hedged transaction affects profit or loss, the fair value variations of the hedging instrument recorded in equity are also symmetrically recycled to the income statement.

   The fair value of those hedging instruments of long-term financing is included in assets under “Non-current financial assets” or in liabilities under “Non-current financial debt” for the non-current portion. The current portion (less than one year) is accounted for in “Current financial assets” or “Other current financial liabilities”.

   If the hedging instrument expires, is sold or terminated by anticipation, gains or losses previously recognized in equity remain in equity. Amounts are recycled to the income statement only when the hedged transaction affects profit or loss.

3) In compliance with IFRS9, the Group has decided to recognize in a separate component of the comprehensive income the variation of foreign currency basis spread (Cross Currency Swaps) identified in the hedging relationships qualified as fair value hedges and cash flow hedges.

- *Foreign subsidiaries’ equity hedge*

Certain financial instruments hedge against risks related to the equity of foreign subsidiaries whose functional currency is not the euro (mainly the dollar). These instruments qualify as “net investment hedges” and changes in fair value are recorded in other comprehensive income under “Currency translation” for the effective portion of the hedging and in the statement of income for the ineffective portion of the hedging. Gains or losses on hedging instruments previously recorded in equity, are reclassified to the statement of income in the same period as the total or partial disposal of the foreign activity.

The fair value of these instruments is recorded under “Current financial assets” and ”Other current financial liabilities”.

- *Commitments to purchase shares held by non-controlling interests (put options written on minority interests)*

Put options granted to non-controlling-interest shareholders are initially recognized as financial liabilities at the present value of the exercise price of the options with a corresponding reduction in shareholders’ equity. The financial liability is subsequently measured at fair value at each balance sheet date in accordance with contractual clauses and any variation is recorded in the statement of income (cost of debt).

A) Impact on the statement of income per nature of financial instruments

Assets and liabilities from financing activities

The impact on the statement of income of financing assets and liabilities mainly includes:

- Financial income on cash, cash equivalents, and current financial assets (notably current deposits beyond three months) classified as “Loans and receivables”;
- Financial expense of long term subsidiaries financing, associated hedging instruments (excluding ineffective portion of the hedge detailed below) and financial expense of short term financing classified as “Financing liabilities and associated hedging instruments”;
- Ineffective portion of bond hedging;
- Financial income and financial expense on lease contracts and,
- Financial income, financial expense and fair value of derivative instruments used for cash management purposes classified as “Assets and liabilities held for trading”.

Financial derivative instruments used for cash management purposes (interest rate and foreign exchange) are considered to be held for trading. Based on practical documentation issues, the Group did not elect to set up hedge accounting for such instruments. The impact on income of the derivatives is offset by the impact of loans and current liabilities they are related to. Therefore these transactions taken as a whole do not have a significant impact on the Consolidated Financial Statements.

For the year ended December 31,

(M$)	**2020**	**2019**	**2018**
Loans and receivables	154	200	161
Financing liabilities and associated hedging instruments	(1,660)	(1,897)	(1,927)
Fair value hedge (ineffective portion)	12	(1)	(6)
Lease assets and obligations	(422)	(417)	-
Assets and liabilities held for trading	(194)	(237)	(349)
Impact on the cost of net debt	**(2,110)**	**(2,352)**	**(2,121)**

B) Impact of the hedging strategies

Fair value hedge instruments

The impact on the statement of income of the bond hedging instruments which is recorded in the item "Financial interest on debt" in the Consolidated Statement of Income is detailed as follows:

For the year ended December 31, (M$)	**2020**	**2019**	**2018**
Revaluation impact at market value of bonds	(4,004)	(762)	1,332
Swap hedging of bonds	4,016	761	(1,338)
Ineffective portion of the fair value hedge	**12**	**(1)**	**(6)**

The ineffective portion is not representative of the Group's performance considering the Group's objective to hold swaps to maturity. The current portion of the swaps valuation is not subject to active management.

Net investment hedge

The variations of the period are detailed in the table below:

For the year ended December 31, (M$)	**As of January 1,**	**Variations**	**Disposals**	**As of December 31**
2020	**(717)**	**(71)**	**-**	**(788)**
2019	(724)	7	-	(717)
2018	(762)	38	-	(724)

As of December 31, 2020, 2019 and 2018 the Group had no open forward contract under these hedging instruments.

Cash flow hedge

The impact on the statement of income and other comprehensive income of the hedging instruments qualified as cash flow hedges is detailed as follows:

For the year ended December 31, (M$)	**2020**	**2019**	**2018**
Profit (Loss) recorded in other comprehensive income of the period	(327)	(585)	24
Recycled amount from other comprehensive income to the income statement of the period	139	47	(116)

As of December 31, 2020, 2019 and 2018, the ineffective portion of these financial instruments is nil.

Hedging instruments and hedged items by strategy

Fair Value Hedge

The following charts regarding Fair Value Hedge, disclose by nature of hedging instruments (Interest Rate Swaps and Cross Currency Swaps):

- The nominal amounts and carrying amounts of hedging instruments ;
- The carrying amounts of hedged items and cumulative FVH adjustments included in the carrying amounts of the hedged items;
- The hedged items that have ceased to be adjusted for hedging gains and losses.

For the year ended December 31 2020
$M

Hedged items	Hedging instruments	Nominal amount of hedging instruments	Carrying amount of hedging instruments		Carrying amount of hedged items		Cumulative FVH adjustments included in the carrying amount of the hedged items		Line items in the statement of financial position
			Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	
Bonds	Interest Rate Swaps	8,063	527	(15)	-	(8,586)	-	(1,136)	*Financial debt / Financial assets*
Bonds	Cross Currency Swaps	11,011	836	(211)	-	(11,109)	-	(98)	*Financial debt / Financial assets*
End of hedging (before 2018)		-	-	-	-	-	-	(47)	

For the year ended December 31 2019
$M

Hedged items	Hedging instruments	Nominal amount of hedging instruments	Carrying amount of hedging instruments		Carrying amount of hedged items		Cumulative FVH adjustments included in the carrying amount of the hedged items		Line items in the statement of financial position
			Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	
Bonds	Interest Rate Swaps	8,012	270	(75)	-	(7,450)	-	(795)	*Financial debt / Financial assets*
Bonds	Cross Currency Swaps	14,357	124	(1,011)	-	(14,357)	-	1,290	*Financial debt / Financial assets*
End of hedging (before 2018)				-	-	-	-	(71)	

Cash Flow Hedge

The following charts regarding Cash Flow Hedge disclose the nominal amounts and carrying amounts by nature of hedging instruments (Interest Rate Swaps and Cross Currency Swaps).

According to IFRS 9, there is no accounting entry related to Cash Flow Hedge on hedged items.

For the year ended December 31 2020 $M	**Nature of hedging instruments**	**Nominal amount of hedging instruments**	**Carrying amount of hedging instruments**		**Line item in the statement of financial position**
			Assets	Liabilities	
Bonds	Interest Rate Swaps	12,781	-	(1,441)	*Financial debt / Financial assets*
Bonds	Cross Currency Swaps	17,511	1,856	(32)	*Financial debt / Financial assets*

For the year ended December 31 2019 $M	**Nature of hedging instruments**	**Nominal amount of hedging instruments**	**Carrying amount of hedging instruments**		**Line item in the statement of financial position**
			Assets	Liabilities	
Bonds	Interest Rate Swaps	12,782	25	(527)	*Financial debt / Financial assets*
Bonds	Cross Currency Swaps	12,604	19	(431)	*Financial debt / Financial assets*

C) Maturity of derivative instruments

The maturity of the notional amounts of derivative instruments, excluding the commodity contracts, is detailed in the following table:

For the year ended December 31, 2020 (M$) **Assets / (Liabilities)**	Fair value	Notional value 2021	Fair value	Notional value schedule 2022 and after	2022	2023	2024	2025	2026 and after
Fair value hedge									
Swaps hedging bonds (assets)	18	1,250	1,365	12,642					
Swaps hedging bonds (liabilities)	(104)	1,445	(142)	3,737					
Total swaps hedging bonds	**(86)**	**2,695**	**1,223**	**16,379**	**4,350**	**3,858**	**2,087**	**1,630**	**4,454**
Cash flow hedge									
Swaps hedging bonds (assets)	-	-	1,856	16,259					
Swaps hedging bonds (liabilities)	-	-	(1,473)	14,033					
Total swaps hedgings bonds	**-**	**-**	**383**	**30,292**	**-**	**1,000**	**3,659**	**4,459**	**21,174**
Forward exchange contracts related to operating activites (assets)	16	262	20	394					
Forward exchange contracts related to operating activites (liabilities)	-	-	-	-					
Total forward exchange contracts related to operating activities	**16**	**262**	**20**	**394**	**276**	**118**	**-**	**-**	**-**
Held for trading									
Other interest rate swaps (assets)	10	22,011	84	3,214					
Other interest rate swaps (liabilities)	(51)	7,693	(116)	3,695					
Total other interest rate swaps	**(41)**	**29,704**	**(32)**	**6,909**	**2,067**	**764**	**2,004**	**1,937**	**137**
Currency swaps and forward exchange contracts (assets)	39	3,323	5	344					
Currency swaps and forward exchange contracts (liabilities)	(48)	2,580	(2)	54					
Total currency swaps and forward exchange contracts	**(9)**	**5,903**	**3**	**398**	**189**	**145**	**64**	**-**	**-**

Notional amounts set the levels of commitment and are indicative nor of a contingent gain or loss neither of a related debt.

For the year ended December 31, 2019	Fair value	Notional value	Fair value	Notional value schedule

(M$) **Assets / (Liabilities)**		2020		2021 and after	2021	2022	2023	2024	2025 and after
Fair value hedge									
Swaps hedging bonds (assets)	-	-	469	10,896					
Swaps hedging bonds (liabilities)	(423)	3,346	(736)	8,127					
Total swaps hedging bonds	**(423)**	**3,346**	**(267)**	**19,023**	**2,695**	**4,298**	**3,858**	**2,337**	**5,835**
Cash flow hedge									
Swaps hedging bonds (assets)	-	-	43	4,062					
Swaps hedging bonds (liabilities)	-	-	(958)	21,324					
Total swaps hedgings bonds	**-**	**-**	**(915)**	**25,386**	**-**	**-**	**1,000**	**3,659**	**20,727**
Forward exchange contracts related to operating activites (assets)	1	29	-	-					
Forward exchange contracts related to operating activites (liabilities)	-	-	-	-					
Total forward exchange contracts related to operating activites	**1**	**29**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Held for trading									
Other interest rate swaps (assets)	11	23,522	50	2,225					
Other interest rate swaps (liabilities)	(24)	16,007	(44)	3,475					
Total other interest rate swaps	**(13)**	**39,529**	**6**	**5,700**	**2,217**	**1,463**	**18**	**1,820**	**182**
Currency swaps and forward exchange contracts (assets)	111	6,446	17	431					
Currency swaps and forward exchange contracts (liabilities)	(39)	4,455	-	131					
Total currency swaps and forward exchange contracts	**72**	**10,901**	**17**	**562**	**529**	**33**	**-**	**-**	**-**

Notional amounts set the levels of commitment and are indicative nor of a contingent gain or loss neither of a related debt.

For the year ended December 31, 2018	Fair value	Notional value	Fair value	Notional value schedule					
(M$) **Assets / (Liabilities)**		2019		2020 and after	2020	2021	2022	2023	2024 and after
Fair value hedge									
Swaps hedging bonds (assets)	45	1,345	235	3,712					
Swaps hedging bonds (liabilities)	(208)	1,874	(1,281)	16,225					
Total swaps hedging bonds	**(163)**	**3,219**	**(1,046)**	**19,937**	**3,346**	**1,945**	**4,309**	**3,858**	**6,479**
Cash flow hedge									
Swaps hedging bonds (assets)	-	**-**	378	10,043					
Swaps hedging bonds (liabilities)	(87)	**969**	(599)	11,265					
Total swaps hedging bonds	**(87)**	**969**	**(221)**	**21,308**	**-**	**-**	**-**	**-**	**21,308**
Forward exchange contracts related to operating activites (assets)	2	39	-	4					
Forward exchange contracts related to operating activites (liabilities)	-	-	-	-					
Total forward exchange contracts related to operating activites	**2**	**39**	**-**	**4**	**4**	**-**	**-**	**-**	**-**
Held for trading									
Other interest rate swaps (assets)	7	17,001	57	2,515					
Other interest rate swaps (liabilities)	(79)	20,816	(22)	2,686					
Total other interest rate swaps	**(72)**	**37,817**	**35**	**5,201**	**2,186**	**1,004**	**56**	**1**	**1,954**
Currency swaps and forward exchange contracts (assets)	66	10,500	11	44					
Currency swaps and forward exchange contracts (liabilities)	(104)	9,107	(7)	34					
Total currency swaps and forward exchange contracts	**(38)**	**19,607**	**4**	**78**	**65**	**12**	**1**	**-**	**-**

Notional amounts set the levels of commitment and are indicative nor of a contingent gain or loss neither of a related debt.

D) Fair value hierarchy

Accounting policies

Fair values are estimated for the majority of the Group's financial instruments, with the exception of publicly traded equity securities and marketable securities for which the market price is used.

Estimations of fair value, which are based on principles such as discounting future cash flows to present value, must be weighted by the fact that the value of a financial instrument at a given time may be influenced by the market environment (liquidity especially), and also the fact that subsequent changes in interest rates and exchange rates are not taken into account.

As a consequence, the use of different estimates, methodologies and assumptions could have a material effect on the estimated fair value amounts.

The methods used are as follows:

- *Financial debts, swaps*

The market value of swaps and of bonds that are hedged by those swaps has been determined on an individual basis by discounting future cash flows with the market curves existing at year-end.

- *Other financial instruments*

The fair value of the interest rate swaps and of FRA's (Forward Rate Agreements) are calculated by discounting future cash flows on the basis of market curves existing at year-end after adjustment for interest accrued but unpaid. Forward exchange contracts and currency swaps are valued on the basis of a comparison of the negotiated forward rates with the rates in effect on the financial markets at year-end for similar maturities.

Exchange options are valued based on models commonly used by the market.

The fair value hierarchy for financial instruments, excluding commodity contracts, is as follows:

As of December 31, 2020 (M$)	**Quoted prices in active markets for identical assets (level 1)**	**Prices based on observable data (level 2)**	**Prices based on non observable data (level 3)**	**Total**
Fair value hedge instruments	-	1,137	-	1,137
Cash flow hedge instruments	-	408	-	408
Assets and liabilities held for trading	-	(68)	-	(68)
Equity instruments	706	-	-	706
Total	**706**	**1,477**	**-**	**2,183**

As of December 31, 2019 (M$)	**Quoted prices in active markets for identical assets (level 1)**	**Prices based on observable data (level 2)**	**Prices based on non observable data (level 3)**	**Total**
Fair value hedge instruments	-	(690)	-	(690)
Cash flow hedge instruments	-	(915)	-	(915)
Assets and liabilities held for trading	-	82	-	82
Equity instruments	240	-	-	240
Total	**240**	**(1,523)**	**-**	**(1,283)**

As of December 31, 2018 (M$)	Quoted prices in active markets for identical assets (level 1)	Prices based on observable data (level 2)	Prices based on non observable data (level 3)	Total
Fair value hedge instruments	-	(1,209)	-	(1,209)
Cash flow hedge instruments	-	(306)	-	(306)
Assets and liabilities held for trading	-	(71)	-	(71)
Equity instruments	94	-	-	94
Total	**94**	**(1,586)**	**-**	**(1,492)**

15.3) Financial risks management

Financial markets related risks

As part of its financing and cash management activities, the Group uses derivative instruments to manage its exposure to changes in interest rates and foreign exchange rates. These instruments are mainly interest rate and currency swaps. The Group may also occasionally use futures contracts and options. These operations and their accounting treatment are detailed in Notes 14, 15.1 and 15.2 to the Consolidated Financial Statements.

Risks relative to cash management operations and to interest rate and foreign exchange financial instruments are managed according to rules set by the Group's senior management, which provide for regular pooling of available cash balances, open positions and management of the financial instruments by the Treasury Department. Excess cash of the Group is deposited mainly in government institutions, deposit banks, or major companies through deposits, reverse repurchase agreements and purchase of commercial paper. Liquidity positions and the management of financial instruments are centralized by the Treasury Department, where they are managed by a team specialized in foreign exchange and interest rate market transactions.

The Cash Monitoring-Management Unit within the Treasury Department monitors limits and positions per bank on a daily basis and results of the Front Office. This unit also prepares marked-to-market valuations of used financial instruments and, when necessary, performs sensitivity analysis.

Counterparty risk

The Group has established standards for market transactions under which any banking counterparty must be approved in advance, based on an assessment of the counterparty's financial solidity (multi-criteria analysis including notably a review of its Credit Default Swap (CDS) level, credit ratings from Standard & Poor's and Moody's, which must be of high standing, and general financial situation).

An overall credit limit is set for each authorised financial counterparty and is allocated amongst the affiliates and the Group's central treasury entities, according to the Group's financial needs.

To reduce the market valuation risk on its commitments, in particular relating to derivative instruments, the Treasury Department has entered into margin call agreements with its counterparties, in compliance with applicable regulations. Moreover, since December 21, 2018 and pursuant to Regulation (EU) No. 648/2012 on OTC derivatives, central counterparties and trade repositories (EMIR), any new interest rate hedging swap (excluding cross currency swaps) entered into by a Group's entity is now subject to central clearing.

Short-term interest rate exposure and cash

Cash balances, which are primarily composed of euros and dollars, are managed according to the guidelines established by the Group's senior management (to maintain an adequate level of liquidity, optimize revenue from investments considering existing interest rate yield curves, and minimize the cost of borrowing) over a less than twelve-month horizon and on the basis of a daily interest rate benchmark, primarily through short-term interest rate swaps and short-term currency swaps, without modifying currency exposure.

Interest rate risk on non-current debt

The Group's policy consists in incurring long-term debt at a floating or fixed rate, depending on the Group's general corporate needs and the interest rate environment at the time of issue, mainly in dollars or euros. Long-term interest rate and currency swaps may be entered into for the purpose of hedging bonds at the time of issuance, synthetically resulting in the incurrence of variable or fixed rate debt. In order to partially alter the interest rate exposure of its long-term indebtedness, TOTAL may also enter into long-term interest rate swaps on an *ad-hoc* basis.

Currency exposure

The Group generally seeks to minimize the currency exposure of each entity to its functional currency (primarily the dollar, the euro, the pound sterling and the Norwegian krone).

For currency exposure generated by commercial activity, the hedging of revenues and costs in foreign currencies is typically performed using currency operations on the spot market and, in some cases, on the forward market. The Group rarely hedges future cash flows, although it may use options to do so.

With respect to currency exposure linked to non-current assets, the Group has a hedging policy of financing these assets in their functional currency.

Net short-term currency exposure is periodically monitored against limits set by the Group's senior management.

The non-current debt described in Note 15.1 to the Consolidated Financial Statements is generally raised by the corporate treasury entities either directly in dollars or in euros, or in other currencies which are then exchanged for dollars or euros through swap issues to appropriately match general corporate needs. The proceeds from these debt issuances are loaned to affiliates whose accounts are kept in dollars or in euros. Thus, the net sensitivity of these positions to currency exposure is not significant.

The Group's short-term currency swaps, the notional value of which appears in Note 15.2 to the Consolidated Financial Statements, are used to attempt to optimize the centralized cash management of the Group. Thus, the sensitivity to currency fluctuations which may be induced is likewise considered negligible.

Sensitivity analysis on interest rate and foreign exchange risk

The tables below present the potential impact of an increase or decrease of 10 basis points on the interest rate yield curves for each of the currencies on the fair value of the current financial instruments as of December 31, 2020, 2019 and 2018.

Assets / (Liabilities)			**Change in fair value due to a change in interest rate by**	
(M$)	**Carrying amount**	**Estimated fair value**	**+ 10 basis points**	**- 10 basis points**
As of December 31, 2020				
Bonds (non-current portion, before swaps)	(46,239)	(52,246)	*440*	*(440)*
Swaps hedging bonds (liabilities)	*(1,615)*	*(1,615)*	-	-
Swaps hedging bonds (assets)	*3,221*	*3,221*	-	-
Total swaps hedging bonds (assets and liabilities)	1,606	1,606	(70)	70
Current portion of non-current debt after swaps (excluding lease obligations)	(4,674)	(4,696)	2	(2)
Other interest rates swaps	(73)	(73)	18	(18)
Currency swaps and forward exchange contracts	(6)	(6)	-	-
As of December 31, 2019				
Bonds (non-current portion, before swaps)	(38,657)	(41,805)	247	(247)
Swaps hedging bonds (liabilities)	*(1,694)*	*(1,694)*	-	-
Swaps hedging bonds (assets)	*512*	*512*	-	-
Total swaps hedging bonds (assets and liabilities)	(1,182)	(1,182)	(44)	44
Current portion of non-current debt after swaps (excluding lease obligations)	(5,331)	(5,332)	1	(1)
Other interest rates swaps	(7)	(7)	18	(18)
Currency swaps and forward exchange contracts	89	89	-	-
As of December 31, 2018				
Bonds (non-current portion, before swaps)	(34,975)	(36,127)	185	(185)
Swaps hedging bonds (liabilities)	*(1,880)*	*(1,880)*	-	-
Swaps hedging bonds (assets)	*613*	*613*	-	-
Total swaps hedging bonds (assets and liabilities)	(1,267)	(1,267)	(59)	59
Current portion of non-current debt after swaps (excluding capital lease obligations)	(5,027)	(5,027)	-	-
Other interest rates swaps	(37)	(37)	12	(12)
Currency swaps and forward exchange contracts	(34)	(34)	-	-

The impact of changes in interest rates on the cost of debt before tax is as follows:

For the year ended December 31, (M$)	2020	2019	2018
Cost of net debt	(2,110)	(2,352)	(2,121)
Interest rate translation of :			
+ 10 basis points	29	27	29
- 10 basis points	(29)	(27)	(29)

As a result of the policy for the management of currency exposure previously described, the Group's sensitivity to currency exposure is primarily influenced by the net equity of the subsidiaries whose functional currency is the euro and the ruble, and to a lesser extent, the pound sterling and the Norwegian krone.

This sensitivity is reflected in the historical evolution of the currency translation adjustment recorded in the statement of changes in consolidated shareholders' equity which, over the course of the last three years, is essentially related to the fluctuation of the euro, the ruble and the pound sterling and is set forth in the table below:

	Dollar / Euro exchange rates	Dollar / Pound sterling exchange rates	Dollar / Ruble exchange rates
December 31, 2020	**0.81**	**0.73**	**74.54**
December 31, 2019	0.89	0.76	62.27
December 31, 2018	0.87	0.78	69.62

As of December 31, 2020 (M$)	Total	Euro	Dollar	Pound sterling	Ruble	Other currencies
Shareholders' equity at historical exchange rate	**113,958**	28,893	60,613	4,494	9,913	10,045
Currency translation adjustment before net investment hedge	**(10,279)**	(2,448)	-	(1,726)	(4,253)	(1,852)
Net investment hedge - open instruments	**23**	23	-	-	-	-
Shareholders' equity at exchange rate as of December 31, 2020	**103,702**	26,468	60,613	2,768	5,660	8,193

As of December 31, 2019 (M$)	Total	Euro	Dollar	Pound sterling	Ruble	Other currencies
Shareholders' equity at historical exchange rate	**128,281**	37,687	66,005	5,635	9,900	9,054
Currency translation adjustment before net investment hedge	**(11,501)**	(4,443)	-	(1,830)	(3,355)	(1,873)
Net investment hedge - open instruments	**(2)**	(2)	-	-	-	-
Shareholders' equity at exchange rate as of December 31, 2019	**116,778**	33,241	66,005	3,805	6,545	7,182

As of December 31, 2018 (M$)	Total	Euro	Dollar	Pound sterling	Ruble	Other currencies
Shareholders' equity at historical exchange rate	**126,953**	41,518	59,125	9,077	8,248	8,985
Currency translation adjustment before net investment hedge	**(11,321)**	(3,706)	-	(1,960)	(3,892)	(1,763)
Net investment hedge - open instruments	**8**	8	-	-	-	-
Shareholders' equity at exchange rate as of December 31, 2018	**115,640**	37,820	59,125	7,117	4,356	7,222

Based on the 2020 financial statements, a conversion using rates different from + or - 10% for each of the currencies below would have the following impact on shareholders equity and net income (Group share):

As of December 31, 2020 (M$)	Euro	Pound sterling	Ruble
Impact of an increase of 10% of exchange rates on :			
- shareholders equity	**2,647**	**277**	**566**
- net income (Group share)	**(189)**	**(64)**	**29**
Impact of a decrease of (10)% of exchange rates on :			
- shareholders equity	**(2,647)**	**(277)**	**(566)**
- net income (Group share)	**189**	**64**	**(29)**

Stock market risk

The Group holds interests in a number of publicly-traded companies (see Note 8 to the Consolidated Financial Statements). The market value of these holdings fluctuates due to various factors, including stock market trends, valuations of the sectors in which the companies operate, and the economic and financial condition of each individual company.

Liquidity risk

TOTAL SE has committed credit facilities granted by international banks allowing it to benefit from significant liquidity reserves.

As of December 31, 2020, these credit facilities amounted to $14,902 million, of which $11,256 million were unutilized. The agreements underpinning credit facilities granted to TOTAL SE do not contain conditions related to the Company’s financial ratios, to its credit ratings from specialized agencies, or to the occurrence of events that could have a material adverse effect on its financial position.

As of December 31, 2020, the aggregated amount of the main committed credit facilities granted by international banks to the Group’s companies, including TOTAL SE, was $16,282 million, of which $11,808 million were unutilized. Credit facilities granted to the Group’s companies other than TOTAL SE are not intended to fund the Group’s general corporate purposes; they are intended to fund either general corporate purposes of the borrowing affiliate, or a specific project.

The following tables show the maturity of the financial assets and liabilities of the Group as of December 31, 2020, 2019 and 2018 (see Note 15.1 to the Consolidated Financial Statements).

As of December 31, 2020
Assets/(Liabilities)

(M$)	Less than one year	1-2 years	2-3 years	3-4 years	4-5 years	More than 5 years	Total
Non-current financial debt (notional value excluding interests)	-	(9,849)	(5,762)	(5,990)	(4,321)	(30,951)	(56,873)
Non-current financial assets excluding derivative financial instruments	-	59	42	45	46	1,259	1,451
Current borrowings	(17,099)	-	-	-	-	-	(17,099)
Other current financial liabilities	(203)	-	-	-	-	-	(203)
Current financial assets	4,630	-	-	-	-	-	4,630
Assets and liabilities available for sale or exchange	(313)	-	-	-	-	-	(313)
Cash and cash equivalents	31,268	-	-	-	-	-	31,268
Net amount before financial expense	**18,283**	**(9,790)**	**(5,720)**	**(5,945)**	**(4,275)**	**(29,692)**	**(37,139)**
Financial expense on non-current financial debt	(930)	(888)	(825)	(696)	(603)	(5,833)	(9,775)
Interest differential on swaps	(163)	(149)	(158)	(173)	(196)	(930)	(1,769)
Net amount	**17,190**	**(10,827)**	**(6,703)**	**(6,814)**	**(5,074)**	**(36,455)**	**(48,683)**

As of December 31, 2019
Assets/(Liabilities)

(M$)	Less than one year	1-2 years	2-3 years	3-4 years	4-5 years	More than 5 years	Total
Non-current financial debt (notional value excluding interests)	-	(5,683)	(6,102)	(5,172)	(5,802)	(24,435)	(47,194)
Non-current financial assets excluding derivative financial instruments	-	68	24	9	4	228	333
Current borrowings	(14,819)	-	-	-	-	-	(14,819)
Other current financial liabilities	(487)	-	-	-	-	-	(487)
Current financial assets	3,992	-	-	-	-	-	3,992
Assets and liabilities available for sale or exchange	(301)	-	-	-	-	-	(301)
Cash and cash equivalents	27,352	-	-	-	-	-	27,352
Net amount before financial expense	**15,737**	**(5,615)**	**(6,078)**	**(5,163)**	**(5,798)**	**(24,207)**	**(31,124)**
Financial expense on non-current financial debt	(807)	(724)	(650)	(594)	(482)	(2,215)	(5,472)
Interest differential on swaps	(350)	(325)	(297)	(255)	(224)	(1,046)	(2,497)
Net amount	**14,580**	**(6,664)**	**(7,025)**	**(6,012)**	**(6,504)**	**(27,468)**	**(39,093)**

As of December 31, 2018
Assets/(Liabilities)

(M$)	Less than one year	1-2 years	2-3 years	3-4 years	4-5 years	More than 5 years	Total
Non-current financial debt (notional value excluding interests)	-	(5,432)	(3,966)	(5,158)	(4,983)	(19,910)	(39,449)
Current borrowings	(13,306)	-	-	-	-	-	(13,306)
Other current financial liabilities	(478)	-	-	-	-	-	(478)
Current financial assets	3,654	-	-	-	-	-	3,654
Assets and liabilities available for sale or exchange	15	-	-	-	-	-	15
Cash and cash equivalents	27,907	-	-	-	-	-	27,907
Net amount before financial expense	**17,792**	**(5,432)**	**(3,966)**	**(5,158)**	**(4,983)**	**(19,910)**	**(21,657)**
Financial expense on non-current financial debt	(718)	(682)	(598)	(506)	(427)	(1,037)	(3,968)
Interest differential on swaps	(484)	(412)	(369)	(309)	(234)	(869)	(2,677)
Net amount	**16,590**	**(6,526)**	**(4,933)**	**(5,973)**	**(5,644)**	**(21,816)**	**(28,302)**

The following table sets forth financial assets and liabilities related to operating activities as of December 31, 2020, 2019 and 2018 (see Note 14 of the Notes to the Consolidated Financial Statements).

As of December 31,
Assets/(Liabilities)

(M$)	**2020**	**2019**	**2018**
Accounts payable	(23,574)	(28,394)	(26,134)
Other operating liabilities	(14,302)	(16,262)	(13,286)
including derivative financial instruments related to commodity contracts (liabilities)	*(3,666)*	*(5,333)*	*(3,429)*
Accounts receivable, net	14,068	18,488	17,270
Other operating receivables	8,043	11,506	9,733
including derivative financial instruments related to commodity contracts (assets)	*1,428*	*4,791*	*2,731*
Total	**(15,765)**	**(14,662)**	**(12,417)**

These financial assets and liabilities mainly have a maturity date below one year.

Credit risk

Credit risk is defined as the risk of the counterparty to a contract failing to perform or pay the amounts due.

The Group is exposed to credit risks in its operating and financing activities. The Group's maximum exposure to credit risk is partially related to financial assets recorded on its balance sheet, including energy derivative instruments that have a positive market value.

The following table presents the Group's maximum credit risk exposure:

As of December 31, Assets/(Liabilities) (M$)	**2020**	**2019**	**2018**
Loans to equity affiliates *(note 8)*	5,129	3,999	4,755
Loans and advances *(note 6)*	2,458	1,982	1,877
Other non-current financial assets related to operational activities *(note 6)*	287	332	471
Non-current financial assets *(note 15.1)*	4,781	912	680
Accounts receivable *(note 5)*	14,068	18,488	17,270
Other operating receivables *(note 5)*	8,043	11,506	9,733
Current financial assets *(note 15.1)*	4,630	3,992	3,654
Cash and cash equivalents *(note 15.1)*	31,268	27,352	27,907
Total	**70,664**	**68,563**	**66,347**

The valuation allowance on accounts receivable, other operating receivables and on loans and advances is detailed in Notes 5 and 6 to the Consolidated Financial Statements.

As part of its credit risk management related to operating and financing activities, the Group has developed margining agreements with certain counterparties. As of December 31, 2020, the net margin call paid amounted to $(1,556) million (against $2,486 million paid as of December 31, 2019 and $2,581 million paid as of December 31, 2018).

The Group has established a number of programs for the sale of receivables, without recourse, with various banks, primarily to reduce its exposure to such receivables. As a result of these programs the Group retains no risk of payment default after the sale, but may continue to service the customer accounts as part of a service arrangement on behalf of the buyer and is required to pay to the buyer payments it receives from the customers relating to the receivables sold. As of December 31, 2020, the net value of receivables sold amounted to $6,446 million. The Group has substantially transferred all the risks and rewards related to receivables. No financial asset or liability remains recognized in the consolidated balance sheet after the date of sale.

Furthermore, in 2020 the Group conducted several operations of reverse factoring for a value of $23 million.

Credit risk is managed by the Group’s business segments as follows:

- **Exploration & Production segment**

Risks arising under contracts with government authorities or other oil companies or under long-term supply contracts necessary for the development of projects are evaluated during the project approval process. The long-term aspect of these contracts and the high-quality of the other parties lead to a low level of credit risk.

Risks related to commercial operations, other than those described above (which are, in practice, directly monitored by subsidiaries), are subject to procedures for establishing credit limits and reviewing outstanding balances.

- **Integrated Gas, Renewables & Power segment**

- Gas & Power activities

Trading Gas & Power activities deal with counterparties in the energy, industrial and financial sectors throughout the world. Financial institutions providing credit risk coverage are highly rated international banks and insurance groups.

Potential counterparties are subject to credit assessment and approval before concluding transactions and are thereafter subject to regular review, including re-appraisal and approval of the limits previously granted.

The creditworthiness of counterparties is assessed based on an analysis of quantitative and qualitative data regarding financial standing and business risks, together with the review of any relevant third party and market information, such as data published by rating agencies. On this basis, credit limits are defined for each potential counterparty and, where appropriate, transactions are subject to specific authorizations.

Credit exposure, which is essentially an economic exposure or an expected future physical exposure, is permanently monitored and subject to sensitivity measures.

Credit risk is mitigated by the systematic use of industry standard contractual frameworks that permit netting, enable requiring added security in case of adverse change in the counterparty risk, and allow for termination of the contract upon occurrence of certain events of default.

About the Professionals and Retail Gas and Power Sales activities, credit risk management policy is adapted to the type of customer either through the use of procedures of prepayments and appropriate collection, especially for mass customers or through credit insurances and sureties/guarantees obtaining. For the Professionals segment, the segregation of duties between the commercial and financial teams allows an “a priori” control of risks.

- Renewables and Carbon Neutrality Businesses (CNB)

Internal procedures for the Renewables division and the Carbon Neutrality Business division include rules on credit risk management. Procedures to monitor customer risk are defined at the local level, especially for SunPower, Saft and Greenflex (rules for the approval of credit limits, use of guarantees, monitoring and assessment of the receivables portfolio,...).

- **Refining & Chemicals segment**

- ***Refining & Chemicals activities***

Credit risk is primarily related to commercial receivables. Internal procedures of Refining & Chemicals include rules for the management of credit describing the fundamentals of internal control in this domain. Each Business Unit implements the procedures of the activity for managing and provisioning credit risk according to the size of the subsidiary and the market in which it operates. The principal elements of these procedures are:

- implementation of credit limits with different authorization schemes;
- use of insurance policies or specific guarantees (letters of credit);
- regular monitoring and assessment of overdue accounts (aging balance), including dunning procedures.

Counterparties are subject to credit assessment and approval prior to any transaction being concluded. Regular reviews are made for all active counterparties including a re-appraisal and renewing of the granted credit limits. The limits of the counterparties are assessed based on quantitative and qualitative data regarding financial standing, together with the review of any relevant third party and market information, such as that provided by rating agencies and insurance companies.

- ***Trading & Shipping activities***

Trading & Shipping deals with commercial counterparties and financial institutions located throughout the world. Counterparties to physical and derivative transactions are primarily entities involved in the oil and gas industry or in the trading of energy commodities, or financial institutions. Credit risk coverage is arranged with financial institutions, international banks and insurance groups selected in accordance with strict criteria.

The Trading & Shipping division applies a strict policy of internal delegation of authority in order to set up credit limits by country and counterparty and approval processes for specific transactions. Credit exposures contracted under these limits and approvals are monitored on a daily basis.

Potential counterparties are subject to credit assessment and approval prior to any transaction being concluded and all active counterparties are subject to regular reviews, including re-appraisal and approval of granted limits. The creditworthiness of counterparties is assessed based on an analysis of quantitative and qualitative data regarding financial standing and business risks, together with the review of any relevant third party and market information, such as ratings published by Standard & Poor's, Moody's Investors Service and other agencies.

Contractual arrangements are structured so as to maximize the risk mitigation benefits of netting between transactions wherever possible and additional protective terms providing for the provision of security in the event of financial deterioration and the termination of transactions on the occurrence of defined default events are used to the greatest permitted extent.

Credit risks in excess of approved levels are secured by means of letters of credit and other guarantees, cash deposits and insurance arrangements. In respect of derivative transactions, risks are secured by margin call contracts wherever possible.

- **Marketing & Services segment**

Internal procedures for the Marketing & Services division include rules on credit risk that describe the basis of internal control in this domain, including the separation of authority between commercial and financial operations.

Credit policies are defined at the local level and procedures to monitor customer risk are implemented (credit committees at the subsidiary level, the creation of credit limits for corporate customers, etc.). Each entity also implements monitoring of its outstanding receivables. Risks related to credit may be mitigated or limited by subscription of credit insurance and/or requiring security or guarantees.

16) Financial instruments related to commodity contracts

16.1) Financial instruments related to commodity contracts

Accounting policies

Financial instruments related to commodity contracts, including crude oil, petroleum products, gas, and power purchase/sales contracts within the trading activities, together with the commodity contract derivative instruments such as energy contracts and forward freight agreements, are used to adjust the Group's exposure to price fluctuations within global trading limits. According to the industry practice, these instruments are considered as held for trading. Changes in fair value are recorded in the statement of income. The fair value of these instruments is recorded in “Other current assets” or “Other creditors and accrued liabilities” depending on whether they are assets or liabilities.

The valuation methodology is to mark-to-market all open positions for both physical and paper transactions. The valuations are determined on a daily basis using observable market data based on organized and over the counter (OTC) markets. In particular cases when market data is not directly available, the valuations are derived from observable data such as arbitrages, freight or spreads and market corroboration. For valuation of risks which are the result of a calculation, such as options for example, commonly known models are used to compute the fair value.

As of December 31, 2020

(M$)

Assets / (Liabilities)	Gross value before offsetting - assets	Gross value before offsetting - liabilities	Amounts offset - assets[(c)]	Amounts offset - liabilities[(c)]	Net balance sheet value presented - assets	Net balance sheet value presented - liabilities	Other amounts not offset	Net carrying amount	Fair value[(b)]
Crude oil, petroleum products and freight rates activities									
Petroleum products, crude oil and freight rate swaps	302	(443)	(207)	207	95	(236)	-	(141)	(141)
Forwards[(a)]	158	(297)	(13)	13	145	(284)	-	(139)	(139)
Options	113	(125)	(68)	68	45	(57)	-	(12)	(12)
Futures	-	-	-	-	-	-	-	-	-
Options on futures	117	(135)	(117)	117	-	(18)	-	(18)	(18)
Other / Collateral	-	-	-	-	-	-	43	43	43
Total crude oil, petroleum products and freight rates	**690**	**(1,000)**	**(405)**	**405**	**285**	**(595)**	**43**	**(267)**	**(267)**
Integrated Gas, Renewables & Power activities									
Swaps	10	(71)	-	-	10	(71)	-	(61)	(61)
Forwards[(a)]	1,372	(3,113)	(186)	186	1,186	(2,927)	-	(1,741)	(1,741)
Options	(61)	(75)	(13)	13	(74)	(62)	-	(136)	(136)
Futures	42	(32)	(21)	21	21	(11)	-	10	10
Other / Collateral	-	-	-	-	-	-	22	22	22
Total Integrated Gas, Renewables & Power	**1,363**	**(3,291)**	**(220)**	**220**	**1,143**	**(3,071)**	**22**	**(1,906)**	**(1,906)**
Total	**2,053**	**(4,291)**	**(625)**	**625**	**1,428**	**(3,666)**	**65**	**(2,173)**	**(2,173)**
Total of fair value non recognized in the balance sheet									

(a) Forwards: contracts resulting in physical delivery are accounted for as derivative commodity contracts and included in the amounts shown.

(b) When the fair value of derivatives listed on an organized exchange market (futures, options on futures and swaps) is offset with the margin call received or paid in the balance sheet, this fair value is set to zero.

(c) Amounts offset in accordance with IAS 32.

As of December 31, 2019

(M$)

Assets / (Liabilities)	Gross value before offsetting - assets	Gross value before offsetting - liabilities	Amounts offset - assets[c]	Amounts offset - liabilities[c]	Net balance sheet value presented - assets	Net balance sheet value presented - liabilities	Other amounts not offset	Net carrying amount	Fair value[b]
Crude oil, petroleum products and freight rates activities									
Petroleum products, crude oil and freight rate swaps	152	(244)	(73)	73	79	(171)	-	(92)	(92)
Forwards[a]	300	(297)	(3)	3	297	(294)	-	3	3
Options	73	(106)	-	-	73	(106)	-	(33)	(33)
Futures	-	-	-	-	-	-	-	-	-
Options on futures	-	(160)	-	-	-	(160)	-	(160)	(160)
Other / Collateral	-	-	-	-	-	-	147	147	147
Total crude oil, petroleum products and freight rates	**525**	**(807)**	**(76)**	**76**	**449**	**(731)**	**147**	**(135)**	**(135)**
Integrated Gas, Renewables & Power activities									
Swaps	469	9	39	(39)	508	(30)	-	478	478
Forwards[a]	4,080	(4,831)	(296)	296	3,784	(4,535)	-	(751)	(751)
Options	76	(37)	(28)	28	48	(9)	-	39	39
Futures	17	(43)	(15)	15	2	(28)	-	(26)	(26)
Other / Collateral	-	-	-	-	-	-	(772)	(772)	(772)
Total Integrated Gas, Renewables & Power	**4,642**	**(4,902)**	**(300)**	**300**	**4,342**	**(4,602)**	**(772)**	**(1,032)**	**(1,032)**
Total	**5,167**	**(5,709)**	**(376)**	**376**	**4,791**	**(5,333)**	**(625)**	**(1,167)**	**(1,167)**
Total of fair value non recognized in the balance sheet									

(a) Forwards: contracts resulting in physical delivery are accounted for as derivative commodity contracts and included in the amounts shown.

(b) When the fair value of derivatives listed on an organized exchange market (futures, options on futures and swaps) is offset with the margin call received or paid in the balance sheet, this fair value is set to zero.

(c) Amounts offset in accordance with IAS 32.

As of December 31, 2018

(M$)

Assets / (Liabilities)	Gross value before offsetting - assets	Gross value before offsetting - liabilities	Amounts offset - assets[(c)]	Amounts offset - liabilities[(c)]	Net balance sheet value presented - assets	Net balance sheet value presented - liabilities	Other amounts not offset	Net carrying amount	Fair value[(b)]
Crude oil, petroleum products and freight rates activities									
Petroleum products, crude oil and freight rate swaps	389	(272)	(140)	140	249	(132)	-	117	117
Forwards[(a)]	243	(373)	(59)	59	184	(314)	-	(130)	(130)
Options	243	(363)	(156)	156	87	(207)	-	(120)	(120)
Futures	10	-	-	-	10	-	-	10	10
Options on futures	529	(689)	(529)	529	-	(160)	-	(160)	(160)
Other / Collateral	-	-	-	-	-	-	(118)	(118)	(118)
Total crude oil, petroleum products and freight rates	**1,414**	**(1,697)**	**(884)**	**884**	**530**	**(813)**	**(118)**	**(401)**	**(401)**
Integrated Gas, Renewables & Power activities									
Swaps	18	(624)	(6)	6	12	(618)	-	(606)	(606)
Forwards[(a)]	2,492	(2,285)	(316)	316	2,176	(1,969)	-	207	207
Options	3	(20)	(18)	18	(15)	(2)	-	(17)	(17)
Futures	126	(125)	(98)	98	28	(27)	-	1	1
Other / Collateral	-	-	-	-	-	-	445	445	445
Total Integrated Gas, Renewables & Power	**2,639**	**(3,054)**	**(438)**	**438**	**2,201**	**(2,616)**	**445**	**30**	**30**
Total	**4,053**	**(4,751)**	**(1,322)**	**1,322**	**2,731**	**(3,429)**	**327**	**(371)**	**(371)**
Total of fair value non recognized in the balance sheet									

(a) Forwards: contracts resulting in physical delivery are accounted for as derivative commodity contracts and included in the amounts shown.

(b) When the fair value of derivatives listed on an organized exchange market (futures, options on futures and swaps) is offset with the margin call received or paid in the balance sheet, this fair value is set to zero.

(c) Amounts offset in accordance with IAS 32.

Commitments on crude oil and refined products have, for the most part, a short-term maturity (less than one year).

The changes in fair value of financial instruments related to commodity contracts are detailed as follows:

For the year ended December 31, (M$)	Fair value as of January 1,	Impact on income	Settled contracts	Other	Fair value as of December 31,
Crude oil, petroleum products and freight rates activities					
2020	**(282)**	**3,813**	**(3,841)**	**-**	**(310)**
2019	(283)	4,189	(4,188)	-	(282)
2018	(223)	2,689	(2,749)	-	(283)
Integrated Gas, Renewables & Power activities					
2020	**(260)**	**676**	**(2,348)**	**4**	**(1,928)**
2019	(415)	1,588	(686)	(747)	(260)
2018	416	1,220	(2,057)	6	(415)

In 2019, the Other column mainly included the acquisition of Toshiba's LNG portfolio, for which financial instruments related to commodity contracts had been recognized for the amount of treasury received.

The fair value hierarchy for financial instruments related to commodity contracts is as follows:

As of December 31, 2020 (M$)	**Quoted prices in active markets for identical assets (level 1)**	**Prices based on observable data (level 2)**	**Prices based on non observable data (level 3)**	**Total**
Crude oil, petroleum products and freight rates activities	10	(320)	-	(310)
Integrated Gas, Renewables & Power activities	(159)	(361)	(1,408)	(1,928)
Total	**(149)**	**(681)**	**(1,408)**	**(2,238)**

As of December 31, 2019 (M$)	**Quoted prices in active markets for identical assets (level 1)**	**Prices based on observable data (level 2)**	**Prices based on non observable data (level 3)**	**Total**
Crude oil, petroleum products and freight rates activities	(182)	(172)	72	(282)
Integrated Gas, Renewables & Power activities	392	2,054	(2,706)	(260)
Total	**210**	**1,882**	**(2,634)**	**(542)**

As of December 31, 2018 (M$)	**Quoted prices in active markets for identical assets (level 1)**	**Prices based on observable data (level 2)**	**Prices based on non observable data (level 3)**	**Total**
Crude oil, petroleum products and freight rates activities	(303)	20	-	(283)
Integrated Gas, Renewables & Power activities	424	(638)	(201)	(415)
Total	**121**	**(618)**	**(201)**	**(698)**

Financial instruments classified as level 3 are mainly composed of long-term liquefied natural gas purchase and sale contracts which relate to the trading activity.

For the purpose of valuation and accounting of LNG contracts, the Group refers to the active management horizon for trading positions which corresponds to 12 months in 2019 and in 2020. The management of positions being carried out on a net value of LNG purchase and sale commitments, the applied valuation method is the contractual portfolio method based mostly on observable market data such as the prices of energy commodities forward contracts.

Concerning the period beyond the management horizon, a sensitivity analysis is carried out to verify that no liability should be recognized. The assumptions used are based on internal assumptions such as the oil and gas price trajectories adopted by the Group, prices renegotiation clauses included in long-term contracts, uncertainties related to contracts execution and flexibilities included in LNG contracts.

This sensitivity analysis highlights that the valuation method of the LNG contracts is sensitive to market risks, and more specifically to the price risk resulting from the volatility of oil and natural gas prices on North American, Asian, and European markets, and to the valuation of flexibilities, and that beyond the active management horizon of 12 months, a 10% change of the spread between gas prices in the US and Asia would have an estimated annual impact of +/- 0.1 B$ on the margin of the contractual portfolio for the following year.

The description of each fair value level is presented in Note 15 to the Consolidated Financial Statements.

Cash Flow hedge

The impact on the statement of income and other comprehensive income of the hedging instruments related to commodity contracts and qualified as cash flow hedges is detailed as follows:

As of December 31

(M$)	**2020**	**2019**	**2018**
Profit (Loss) recorded in other comprehensive income of the period	14	(14)	3
Recycled amount from other comprehensive income to the income statement of the period	(1)	-	(3)

These financial instruments are mainly one year term Henry Hub derivatives and European gas, power and CO_2 emission rights derivatives.

As of December 31, 2020, the ineffective portion of these financial instruments is nil (in 2019 and in 2018 the ineffective portion of these financial instruments was nil).

16.2) Oil, Gas and Power markets related risks management

Due to the nature of its business, the Group has significant oil and gas trading activities as part of its day-to-day operations in order to optimize revenues from its oil and gas production and to obtain favorable pricing to supply its refineries.

In its international oil trading business, the Group follows a policy of not selling its future production. However, in connection with this trading business, the Group, like most other oil companies, uses energy derivative instruments to adjust its exposure to price fluctuations of crude oil, refined products, natural gas, and power. The Group also uses freight rate derivative contracts in its shipping business to adjust its exposure to freight-rate fluctuations. To hedge against this risk, the Group uses various instruments such as futures, forwards, swaps and options on organized markets or over-the-counter markets. The list of the different derivatives held by the Group in these markets is detailed in Note 16.1 to the Consolidated Financial Statements.

The Trading & Shipping division measures its market risk exposure, *i.e.* potential loss in fair values, on its crude oil, refined products and freight rates trading activities using a “value-at-risk” technique. This technique is based on an historical model and makes an assessment of the market risk arising from possible future changes in market values over a 24-hour period. The calculation of the range of potential changes in fair values is based on the end-of-day exposures and historical price movements of the last 400 business days for all traded instruments and maturities. Options are systematically re-evaluated using appropriate models.

The “value-at-risk” represents the most unfavorable movement in fair value obtained with a 97.5% confidence level. This means that the Group’s portfolio result is likely to exceed the value-at-risk loss measure once over 40 business days if the portfolio exposures were left unchanged.

Trading & Shipping: "value-at-risk with" a 97.5% probability

As of December 31, (M$)	**High**	**Low**	**Average**	**Year end**
2020	**30**	**6**	**15**	**19**
2019	28	9	17	21
2018	21	5	12	7

As part of its gas and power trading activity, the Group also uses derivative instruments such as futures, forwards, swaps and options in both organized and over-the-counter markets. In general, the transactions are settled at maturity date through physical delivery. The Gas division measures its market risk exposure, i.e. potential loss in fair values, on its trading business using a “value-at-risk” technique. This technique is based on an historical model and makes an assessment of the market risk arising from possible future changes in market values over a one-day period. The calculation of the range of potential changes in fair values takes into account a snapshot of the end-of-day exposures and the set of historical price movements for the past two years for all instruments and maturities in the global trading business.

Integrated Gas, Renewables & Power division trading: "value-at-risk" with a 97.5% probability

As of December 31, (M$)	**High**	**Low**	**Average**	**Year end**
2020	**51**	**6**	**21**	**27**
2019	83	10	20	64
2018	20	3	10	10

The Group has implemented strict policies and procedures to manage and monitor these market risks. These are based on the separation of control and front-office functions and on an integrated information system that enables real-time monitoring of trading activities.

Limits on trading positions are approved by the Group’s Executive Committee and are monitored daily. To increase flexibility and encourage liquidity, hedging operations are performed with numerous independent operators, including other oil companies, major energy producers or consumers and financial institutions. The Group has established counterparty limits and monitors outstanding amounts with each counterparty on an ongoing basis.

17) Post closing events

There was no post closing event.

18) Consolidation scope

As of December 31, 2020, 1,118 entities are consolidated of which 146 are accounted for under the equity method (E).

The table below presents a comprehensive list of the Group consolidated entities:

Business segment	Statutory corporate name	% Group interest	Method	Country of incorporation	Country of operations
Exploration & Production	Abu Dhabi Gas Industries Limited	15,00%	E	United Arab Emirates	United Arab Emirates
	Abu Dhabi Marine Areas Limited	33,33%	E	United Kingdom	United Arab Emirates
	Angola Block 14 B.V.	50,01%		Netherlands	Angola
	Angola LNG Supply Services, LLC	13,60%	E	United States	United States
	Bonny Gas Transport Limited	15,00%	E	Bermuda	Nigeria
	Brass Holdings B.V.	100,00%		Netherlands	Nigeria
	Brass LNG Limited	20,48%	E	Nigeria	Nigeria
	Deer Creek Pipelines Limited	75,00%		Canada	Canada
	Dolphin Energy Limited	24,50%	E	United Arab Emirates	United Arab Emirates
	E.F. Oil And Gas Limited	100,00%		United Kingdom	United Kingdom
	Elf E&P	100,00%		France	France
	Elf Exploration UK Limited	100,00%		United Kingdom	United Kingdom
	Elf Petroleum Iran	100,00%		France	Iran
	Elf Petroleum UK Limited	100,00%		United Kingdom	United Kingdom
	Gas Investment and Services Company Limited	10,00%	E	Bermuda	Oman
	Mabruk Oil Operations	49,02%		France	Libya
	Moattama Gas Transportation Company Limited	31,24%	E	Bermuda	Myanmar
	Norpipe Oil A/S	34,93%	E	Norway	Norway
	Norpipe Petroleum UK Limited	45,22%	E	United Kingdom	Norway
	Norpipe Terminal Holdco Limited	45,22%	E	United Kingdom	Norway
	Norsea Pipeline Limited	45,22%	E	United Kingdom	Norway
	North Oil Company	30,00%	E	Qatar	Qatar
	Novatek	19,40%	E	Russia	Russia
	Pars LNG Limited	40,00%	E	Bermuda	Iran
	Petrocedeno	30,32%	E	Venezuela	Venezuela
	Private Oil Holdings Oman Limited	10,00%	E	United Kingdom	Oman
	Stogg Eagle Funding B.V.	100,00%		Netherlands	Nigeria
	Tepkri Sarsang A/S	100,00%		Denmark	Iraq
	Termokarstovoye S.A.S.	100,00%		France	France
	Terneftegaz JSC (a)	58,89%	E	Russia	Russia
	Total (BTC) B.V.	100,00%		Netherlands	Azerbaijan
	Total Abu Al Bu Khoosh	100,00%		France	United Arab Emirates
	Total Austral	100,00%		France	Argentina
	Total Brazil Services B.V.	100,00%		Netherlands	Netherlands
	Total Danmark Pipelines A/S	100,00%		Denmark	Denmark
	Total Denmark ASW Pipeline ApS	100,00%		Denmark	Denmark
	Total Denmark ASW, Inc.	100,00%		United States	Denmark
	Total Dolphin Midstream	100,00%		France	France
	Total E&P Chissonga	100,00%		France	Angola
	Total E&P Absheron B.V.	100,00%		Netherlands	Azerbaijan
	Total E&P Al Shaheen A/S	100,00%		Denmark	Qatar
	Total E&P Algerie	100,00%		France	Algeria
	Total E&P Algerie Berkine A/S	100,00%		Denmark	Algeria
	Total E&P Americas, LLC	100,00%		United States	United States
	Total E&P Anchor, LLC	100,00%		United States	United States
	Total E&P Angola	100,00%		France	Angola
	Total E&P Angola Block 15/06	100,00%		France	Angola
	Total E&P Angola Block 16	100,00%		France	Angola
	Total E&P Angola Block 16 Holdings	100,00%		France	Angola
	Total E&P Angola Block 17.06	100,00%		France	Angola
	Total E&P Angola Block 25	100,00%		France	Angola
	Total E&P Angola Block 32	100,00%		France	Angola
	Total E&P Angola Block 33	100,00%		France	Angola
	Total E&P Angola Block 39	100,00%		France	Angola
	Total E&P Angola Block 40	100,00%		France	Angola
	Total E&P Angola Block 48 B.V.	100,00%		Netherlands	Angola
	Total E&P Angola Blocks 20-21	100,00%		France	Angola
	Total E&P Aruba B.V.	100,00%		Netherlands	Aruba
	Total E&P Asia Pacific Pte. Limited	100,00%		Singapore	Singapore
	Total E&P Azerbaijan B.V.	100,00%		Netherlands	Azerbaijan
	Total E&P Bolivie	100,00%		France	Bolivia
	Total E&P Borneo B.V.	100,00%		Netherlands	Brunei
	Total E&P Bulgaria B.V.	100,00%		Netherlands	Bulgaria
	Total E&P Cambodge	100,00%		France	Cambodia
	Total E&P Canada Limited	100,00%		Canada	Canada
	Total E&P Chine	100,00%		France	China
	Total E&P Colombie	100,00%		France	Colombia
	Total E&P Congo	85,00%		Congo	Congo
	Total E&P Cote d'Ivoire	100,00%		France	Côte d'Ivoire
	Total E&P Cote d'Ivoire CI - 514	100,00%		France	Côte d'Ivoire
	Total E&P Cote d'Ivoire CI - 515	100,00%		France	Côte d'Ivoire
	Total E&P Cote d'Ivoire B.V.	100,00%		Netherlands	Côte d'Ivoire
	Total E&P Cyprus B.V.	100,00%		Netherlands	Cyprus
	Total E&P Danmark A/S - CPH	100,00%		Denmark	Denmark
	Total E&P Danmark A/S -EBJ	100,00%		Denmark	Denmark
	Total E&P Do Brasil Ltda	100,00%		Brazil	Brazil
	Total E&P Dolphin Upstream	100,00%		France	Qatar
	Total E&P Dunga GmbH	100,00%		Germany	Kazakhstan
	Total E&P East El Burullus Offshore B.V.	100,00%		Netherlands	Egypt
	Total E&P Egypt Block 2 B.V.	100,00%		Netherlands	Egypt
	Total E&P Egypte	100,00%		France	Egypt
	Total E&P Europe and Central Asia Limited	100,00%		United Kingdom	United Kingdom
	Total E&P France	100,00%		France	France
	Total E&P Golfe Limited	100,00%		France	Qatar
	Total E&P Greece B.V.	100,00%		Netherlands	Greece
	Total E&P Guyana B.V.	100,00%		Netherlands	Guyana
	Total E&P Guyane Francaise	100,00%		France	France
	Total E&P Holdings Russia	100,00%		France	France
	Total E&P Holdings UAE B.V.	100,00%		Netherlands	United Arab Emirates
	Total E&P International K1 Limited	100,00%		Kenya	Kenya
	Total E&P International K2 Limited	100,00%		Kenya	Kenya
	Total E&P International K3 Limited	100,00%		Kenya	Kenya
	Total E&P International Limited	100,00%		United Kingdom	Kenya
	Total E&P Iraq	100,00%		France	Iraq
	Total E&P Ireland B.V.	100,00%		Netherlands	Ireland
	Total E&P Italia	100,00%		Italy	Italy
	Total E&P Jack LLC	100,00%		United States	United States
	Total E&P Jutland Denmark B.V.	100,00%		Netherlands	Denmark
	Total E&P Kazakhstan	100,00%		France	Kazakhstan
	Total E&P Kenya B.V.	100,00%		Netherlands	Kenya
	Total E&P Kurdistan Region of Iraq (Harir) B.V.	100,00%		Netherlands	Iraq
	Total E&P Kurdistan Region of Iraq (Safen) B.V.	100,00%		Netherlands	Iraq
	Total E&P Kurdistan Region of Iraq (Taza) B.V.	100,00%		Netherlands	Iraq
	Total E&P Kurdistan Region of Iraq B.V.	100,00%		Netherlands	Iraq
	Total E&P Liban S.A.L.	100,00%		Lebanon	Lebanon
	Total E&P Libye	100,00%		France	Libya

	Total E&P Lower Zakum B.V.	100,00%		Netherlands	United Arab Emirates
	Total E&P M2 Holdings Limited	100,00%		South Africa	South Africa
	Total E&P Malaysia	100,00%		France	Malaysia
	Total E&P Mauritania Block C18 B.V.	100,00%		Netherlands	Mauritania
	Total E&P Mauritania Block C9 B.V.	100,00%		Netherlands	Mauritania
	Total E&P Mauritania Blocks DW B.V.	100,00%		Netherlands	Mauritania
	Total E&P Mauritanie	100,00%		France	Mauritania
	Total E&P Mexico S.A. de C.V.	100,00%		Mexico	Mexico
	Total E&P Mozambique B.V.	100,00%		Netherlands	Mozambique
	Total E&P Myanmar	100,00%		France	Myanmar
	Total E&P Namibia B.V.	100,00%		Netherlands	Namibia
	Total E&P Nederland B.V.	100,00%		Netherlands	Netherlands
	Total E&P New Ventures Inc.	100,00%		United States	United States
	Total E&P Nigeria Deepwater A Limited	100,00%		Nigeria	Nigeria
	Total E&P Nigeria Deepwater B Limited	100,00%		Nigeria	Nigeria
	Total E&P Nigeria Deepwater C Limited	100,00%		Nigeria	Nigeria
	Total E&P Nigeria Deepwater D Limited	100,00%		Nigeria	Nigeria
	Total E&P Nigeria Deepwater E Limited	100,00%		Nigeria	Nigeria
	Total E&P Nigeria Deepwater F Limited	100,00%		Nigeria	Nigeria
	Total E&P Nigeria Deepwater G Limited	100,00%		Nigeria	Nigeria
	Total E&P Nigeria Deepwater H Limited	100,00%		Nigeria	Nigeria
	Total E&P Nigeria Limited	100,00%		Nigeria	Nigeria
	Total E&P Nigeria S.A.S.	100,00%		France	France
	Total E&P Norge AS	100,00%		Norway	Norway
	Total E&P North Sea UK Limited	100,00%		United Kingdom	United Kingdom
	Total E&P Oman	100,00%		France	Oman
	Total E&P Participations Petrolieres Congo	100,00%		Congo	Congo
	Total E&P Philippines B.V.	100,00%		Netherlands	Philippines
	Total E&P Qatar	100,00%		France	Qatar
	Total E&P RDC	100,00%		Democratic Republic of Congo	Democratic Republic of Congo
	Total E&P Research & Technology USA LLC	100,00%		United States	United States
	Total E&P Russie	100,00%		France	Russia
	Total E&P Sao Tome and Principe B.V.	100,00%		Netherlands	Angola
	Total E&P Senegal	100,00%		France	Senegal
	Total E&P Services China Company Limited	100,00%		China	China
	Total E&P South Africa B.V.	100,00%		Netherlands	South Africa
	Total E&P South Africa Block 567 (Pty) Ltd	100,00%		South Africa	South Africa
	Total E&P South Pars	100,00%		France	Iran
	Total E&P South Sudan	100,00%		France	Republic of South Sudan
	Total E&P Suriname B.V.	100,00%		Netherlands	Suriname
	Total E&P Syrie	100,00%		France	Syrian Arab Republic
	Total E&P Tajikistan B.V.	100,00%		Netherlands	Tajikistan
	Total E&P Thailand	100,00%		France	Thailand
	Total E&P Three Pl B.V.	100,00%		Netherlands	Brazil
	Total E&P Timan-Pechora LLC	100,00%		Russia	Russia
	Total E&P UAE Unconventional Gas B.V.	100,00%		Netherlands	United Arab Emirates
	Total E&P Uganda B.V.	100,00%		Netherlands	Uganda
	Total E&P UK Limited	100,00%		United Kingdom	United Kingdom
	Total E&P Umm Shaif Nasr B.V.	100,00%		Netherlands	United Arab Emirates
	Total E&P Uruguay B.V.	100,00%		Netherlands	Uruguay
	Total E&P Uruguay Onshore B.V.	100,00%		Netherlands	Uruguay
	Total E&P US Well Containment, LLC	100,00%		United States	United States
	Total E&P USA Inc.	100,00%		United States	United States
	Total E&P USA Oil Shale, LLC	100,00%		United States	United States
	Total E&P Waha Limited	100,00%		Cayman Islands	Libya
	Total E&P Well Response	100,00%		France	France
	Total E&P Yemen	100,00%		France	Yemen
	Total E&P Yemen Block 3 B.V.	100,00%		Netherlands	Yemen
	Total East Africa Midstream B.V.	100,00%		Netherlands	Uganda
	Total Energy (Meuk) Limited	100,00%		United Kingdom	United Kingdom
	Total Exploration M'Bridge	100,00%		Netherlands	Angola
	Total Facilities Management B.V.	100,00%		Netherlands	Netherlands
	Total Gabon	58,28%		Gabon	Gabon
	Total Gass Handel Norge AS	100,00%		Norway	Norway
	Total Gastransport Nederland B.V.	100,00%		Netherlands	Netherlands
	Total Holding Dolphin Amont	100,00%		France	France
	Total Holdings Nederland B.V.	100,00%		Netherlands	Netherlands
	Total Holdings Nederland International B.V.	100,00%		Netherlands	Netherlands
	Total Iran B.V.	100,00%		Netherlands	Iran
	Total LNG Supply Services USA Inc.	100,00%		United States	United States
	Total Oil and Gas South America	100,00%		France	France
	Total Oil and Gas Venezuela B.V.	100,00%		Netherlands	Venezuela
	Total Oil Gb Limited	100,00%		United Kingdom	United Kingdom
	Total Oil UK Limited	100,00%		United Kingdom	United Kingdom
	Total P&G do Brasil Ltda	100,00%		Brazil	Brazil
	Total Pars LNG	100,00%		France	France
	Total Petroleum Angola	100,00%		France	Angola
	Total Profils Petroliers	100,00%		France	France
	Total Qatar	100,00%		France	Qatar
	Total South Pars	100,00%		France	Iran
	Total Upstream Danmark A/S	100,00%		Denmark	Denmark
	Total Upstream Nigeria Limited	100,00%		Nigeria	Nigeria
	Total Upstream UK Limited	100,00%		United Kingdom	United Kingdom
	Total Venezuela	100,00%		France	France
	Uintah Colorado Resources, LLC	66,67%		United States	United States
	Unitah Colorado Resources II, LLC	100,00%		United States	United States
	Ypergas S.A.	37,33%		Venezuela	Venezuela
Integrated Gas, Renewables & Power	Abu Dhabi Gas Liquefaction Company Limited	5,00%	E	United Arab Emirates	United Arab Emirates
	Adani Gas Limited AGL	37,40%	E	India	India
	Adani Green Energy Twenty Three Limited	50,00%	E	India	India
	Adani Total Private Limited (e)	50,00%	E	India	India
	Advanced Thermal Batteries Inc.	49,99%	E	United States	United States
	Aerospatiale Batteries (ASB)	49,99%	E	France	France
	Aerowatt Energies	65,00%	E	France	France
	Aerowatt Energies 2	51,00%	E	France	France
	Abarloar Solar, S.L.U.	100,00%		Spain	Spain
	Alcad AB	99,99%		Sweden	Sweden
	Alicante	50,00%	E	France	France
	Alicante 2	50,00%	E	France	France
	Al Kharsaa Solar Holdings B.V.	49,00%	E	Netherlands	Netherlands
	Amber Solar Power Cinco, S.L.	65,00%	E	Spain	Spain
	Amber Solar Power Cuatro, S.L.	65,00%	E	Spain	Spain
	Amber Solar Power Dieciseis, S.L.	65,00%	E	Spain	Spain
	Amber Solar Power Diez, S.L.	65,00%	E	Spain	Spain
	Amber Solar Power Nueve, S.L.	65,00%	E	Spain	Spain
	Amber Solar Power Quince, S.L.	65,00%	E	Spain	Spain
	Amber Solar Power Tres, S.L.	65,00%	E	Spain	Spain

Amber Solar Power Uno, S.L.	65,00%	E	Spain	Spain
Anayet Solar, S.L.U.	100,00%		Spain	Spain
Armada Solar, S.L.U.	100,00%		Spain	Spain
Amura Solar, S.L.U.	100,00%		Spain	Spain
Angola LNG Limited	13,60%	E	Bermuda	Angola
Arbotante Solar, S.L.U.	100,00%		Spain	Spain
Arctic LNG 2 LLC (b)	21,64%	E	Russia	Russia
ATJV Offshore	50,00%	E	Singapore	Singapore
Automotive Cells Company, S.E.	49,99%	E	France	France
Baser Comercializadora de Referencia	100,00%		Spain	Spain
Bassin Du Capiscol	100,00%		France	France
Beauce Oratorienne	100,00%		France	France
Biogaz Breuil	100,00%		France	France
Biogaz Chatillon	100,00%		France	France
Biogaz Corcelles	100,00%		France	France
Biogaz Epinay	100,00%		France	France
Biogaz Libron	100,00%		France	France
Biogaz Milhac	100,00%		France	France
Biogaz Soignolles	100,00%		France	France
Biogaz Torcy	100,00%		France	France
Biogaz Vert Le Grand	100,00%		France	France
Biogaz Viriat	100,00%		France	France
Borrowed Sunshine II Parent, LLC	51,61%		United States	United States
Borrowed Sunshine II, LLC	51,61%		United States	United States
BSP Class B Member HoldCo, LLC	51,61%		United States	United States
BSP Class B Member, LLC	51,61%		United States	United States
BSP Holding Company, LLC	51,61%		United States	United States
BSP II Parent, LLC	51,61%		United States	United States
Cameron LNG Holdings LLC	16,60%	E	United States	United States
Centrale Eolienne Ploumoguer	100,00%		France	France
Centrale Eolienne De Goulien	100,00%		France	France
Centrale Eolienne De La Vallee Gentillesse	74,80%		France	France
Centrale Hydrolique Alas	100,00%		France	France
Centrale Hydrolique Ardon	90,00%		France	France
Centrale Hydrolique Arvan	100,00%		France	France
Centrale Hydrolique Barbaira	100,00%		France	France
Centrale Hydrolique Bonnant	100,00%		France	France
Centrale Hydrolique Gavet	100,00%		France	France
Centrale Hydrolique La Buissiere	100,00%		France	France
Centrale Hydrolique Miage	100,00%		France	France
Centrale Hydrolique Previnquieres	100,00%		France	France
Centrale Photovoltaique De Merle Sud	40,58%	E	France	France
Centrale Photovoltaique Du Seneguier	100,00%		France	France
Centrale Photovoltaique Le Barou	100,00%		France	France
Centrale Solaire 2	100,00%		France	France
Centrale Solaire Autoprod	100,00%		France	France
Centrale Solaire Base 112	100,00%		France	France
Centrale Solaire Beauce Val de Loire	100,00%		France	France
Centrale Solaire Briffaut	100,00%		France	France
Centrale Solaire Centre Ouest 2	100,00%		France	France
Centrale Solaire Cet De Hesse	100,00%		France	France
Centrale Solaire Chauveau	100,00%		France	France
Centrale Solaire Chemin De Melette	100,00%		France	France
Centrale Solaire De Cazedarnes	75,00%		France	France
Centrale Solaire de la Med	100,00%		France	France
Centrale Solaire Dom	100,00%		France	France
Centrale Solaire Du Centre Ouest	100,00%		France	France
Centrale Solaire Du Lavoir	60,00%		France	France
Centrale Solaire Estarac	35,00%	E	France	France
Centrale Solaire Ficon	100,00%		France	France
Centrale Solaire Forum Laudun	100,00%		France	France
Centrale Solaire Gare de Boussens	100,00%		France	France
Centrale Solaire Golbey	100,00%		France	France
Centrale Solaire Guinots	100,00%		France	France
Centrale Solaire Heliovale	59,63%	E	France	France
Centrale Solaire La Fenasse	100,00%		France	France
Centrale Solaire La Metairie	100,00%		France	France
Centrale Solaire La Potence	100,00%		France	France
Centrale Solaire La Sauteirane	100,00%		France	France
Centrale Solaire La Tastere	100,00%		France	France
Centrale Solaire Le Castellet	100,00%		France	France
Centrale Solaire Les Ancizes	100,00%		France	France
Centrale Solaire Les Aspres	100,00%		France	France
Centrale Solaire Les Canebieres	100,00%		France	France
Centrale Solaire Les Cordeliers	83,98%		France	France
Centrale Solaire Les Cordeliers 2	100,00%		France	France
Centrale Solaire Les Galliennes	100,00%		France	France
Centrale Solaire Lodes	50,00%	E	France	France
Centrale Solaire Lyreco	100,00%		France	France
Centrale Solaire Manosque Ombriere	100,00%		France	France
Centrale Solaire Mazeran Lr	50,00%	E	France	France
Centrale Solaire Mazeran Paca	100,00%		France	France
Centrale Solaire Olinoca	10,00%	E	France	France
Centrale Solaire Ombrieres Cap Agathois	83,98%		France	France
Centrale Solaire Ombrieres De Blyes	100,00%		France	France
Centrale Solaire Ombrieres P5	100,00%		France	France
Centrale Solaire Pezenas	100,00%		France	France
Centrale Solaire Piennes	100,00%		France	France
Centrale Solaire Plateau De Pouls	51,00%		France	France
Centrale Solaire Pont Sur Sambre	100,00%		France	France
Centrale Solaire Quadrao	100,00%		France	France
Centrale Solaire Quinipily 2	100,00%		France	France
Centrale Solaire Sainte-Marie La Mare	100,00%		France	France
Centrale Solaire SPW2	100,00%		France	France
Centrale Solaire Supdevenergie	100,00%		France	France
Centrale Solaire Toiture Josse	100,00%		France	France
Centrale Solaire TQ1	100,00%		France	France
Centrale Solaire Valorbi	100,00%		France	France
Centrale Solaire Zabo	100,00%		France	France
Centrale Solaire Zabo 2	100,00%		France	France
Cerezo Solar, S.L.U.	100,00%		Spain	Spain
Cidra Solar, S.L.U.	100,00%		Spain	Spain
Co Biogaz	26,00%	E	France	France
Cogenra Solar, Inc.	51,61%		United States	United States
Colón LNG Marketing S. de R. L.	50,00%	E	Panama	Panama
Cote d'Ivoire GNL	34,00%	E	Côte d'Ivoire	Côte d'Ivoire
DAJA 148	100,00%		France	France

DAJA 154	100,00%		France	France
DAJA 160	100,00%		France	France
ECA LNG Holdings B.V.	16,60%	E	Netherlands	Netherlands
Eclipse Solar SPA	100,00%		Chile	Chile
Edelweis Solar, S.L.U.	100,00%		Spain	Spain
EDP Comercializadora S.A.U.	100,00%		Spain	Spain
EDP Energia S.A.U.	100,00%		Spain	Spain
Electricite Solaire De Molleges	100,00%		France	France
Energie Developpement	50,00%	E	France	France
Eole Boin	100,00%		France	France
Eole Champagne Conlinoise	66,00%	E	France	France
Eole Cote Du Moulin	100,00%		France	France
Eole Fonds Caraibes	100,00%		France	France
Eole Grand Maison	100,00%		France	France
Eole La Montagne	87,60%		France	France
Eole La Perriere S.A.R.L.	100,00%		France	France
Eole Les Buissons	100,00%		France	France
Eole Morne Carriere	100,00%		France	France
Eole Morne Constant	100,00%		France	France
Eole Moulin Tizon	100,00%		France	France
Eole Pierrefitte Es Bois	100,00%		France	France
Eole Sorbon II	100,00%		France	France
Eole Yate	100,00%		France	France
Eoliennes Arques 3	100,00%		France	France
Eoliennes Du Champ Chardon	100,00%		France	France
Eolmed	20,00%	E	France	France
Falla Solar, S.L.U.	100,00%		Spain	Spain
Fast Jung KB	99,99%		Sweden	Sweden
Finansol 1	100,00%		France	France
Finansol 2	100,00%		France	France
Finansol 3	100,00%		France	France
Fluxsol	100,00%		France	France
Frieman & Wolf Batterietechnick GmbH	99,99%		Germany	Germany
Gas Del Litoral SRLCV	25,00%	E	Mexico	Mexico
Gfs I Holding Company, LLC	51,61%		United States	United States
Glaciere De Palisse	100,00%		France	France
Global Energy Armateur SNC	100,00%		France	France
Global LNG Armateur S.A.S.	100,00%		France	France
Global LNG Downstream S.A.S.	100,00%		France	France
Global LNG North America Corporation	100,00%		United States	United States
Global LNG S.A.S.	100,00%		France	France
Global LNG UK Limited	100,00%		United Kingdom	United Kingdom
Go Electric	99,99%		United States	United States
Golden Fields Solar I, LLC	51,61%		United States	United States
Goodfellow Solar Construction, LLC	51,61%		United States	United States
Goodfellow Solar II, LLC	51,61%		United States	United States
Goodfellow Solar III, LLC	51,61%		United States	United States
Gray Whale Offshore Wind Power No.1 Co., Ltd	50,00%	E	South Korea	South Korea
Gray Whale Offshore Wind Power No.2 Co., Ltd	50,00%	E	South Korea	South Korea
Greenflex Actirent Group, S.L.	100,00%		Spain	Spain
Greenflex S.A.S.	99,99%		France	France
GridVault DR1, LLC	51,61%		United States	United States
Grillete Solar, S.L.U.	100,00%		Spain	Spain
Gulf Total Tractebel Power Company PSJC	20,00%	E	United Arab Emirates	United Arab Emirates
Helio 100 Kw	100,00%		France	France
Helio 21	100,00%		France	France
Helio 974 Sol 1	100,00%		France	France
Helio 974 Toitures	100,00%		France	France
Helio 974 Toiture 2	100,00%		France	France
Helio Bakia	50,00%	E	France	France
Helio Boulouparis	50,00%	E	France	France
Helio Boulouparis 2	50,00%	E	France	France
Helio Fonds Caraibes	100,00%		France	France
Helio Koumac	50,00%	E	France	France
Helio L'R	100,00%		France	France
Helio Moindah	100,00%		France	France
Helio Piin Patch	50,00%	E	France	France
Helio Plaine des Gaiacs	100,00%		France	France
Helio Popidery	50,00%	E	France	France
Helio Reunion	100,00%		France	France
Helio Saint Benoit	100,00%		France	France
Helio Tamoa	50,00%	E	France	France
Helio Temala	50,00%	E	France	France
Helio Tontouta	100,00%		France	France
Helio Wabealo	100,00%		France	France
Helix Project III, LLC	51,61%		United States	United States
Helix Project V, LLC	51,61%		United States	United States
HETTY	100,00%		France	France
Holding Eole 2018	100,00%		France	France
Hydro Tinee	50,00%	E	France	France
Hydromons	100,00%		France	France
Ichthys LNG PTY Limited	26,00%	E	Australia	Australia
Institut Photovoltaique D'Ile De France (IPVF)	43,00%		France	France
Ise Total Nanao Power Plant G.K.	50,00%	E	Japan	Japan
JDA Overseas Holdings, LLC	51,61%		United States	United States
Jingdan New Energy investment (Shanghai) Co. Ltd	50,00%	E	China	China
Jmcp	50,05%		France	France
JOBS Tugboat, LLC	51,61%		United States	United States
Komundo Offshore Wind Power Co., Ltd	50,00%	E	South Korea	South Korea
LA Basin Solar I, LLC	51,61%		United States	United States
La Compagnie Electrique de Bretagne	100,00%		France	France
La Metairie Neuve	25,00%	E	France	France
La Seauve	95,01%		France	France
Lampiris S.A.	100,00%		Belgium	Belgium
Lanuza Solar, S.L.U.	100,00%		Spain	Spain
Lemoore Stratford Land Holdings IV, LLC	51,61%		United States	United States
Les Vents De Nivillac	100,00%		France	France
Les Vents De Ranes	100,00%		France	France
Leuret	100,00%		France	France
Lincoln Solar Star, LLC	51,61%		United States	United States
Luce Solar SPA	100,00%		Chile	Chile
Luminora Solar cuatro, S.L.	65,00%	E	Spain	Spain
Luminora Solar Dos, S.L.	65,00%	E	Spain	Spain
Luminora Solar Tres, S.L.	65,00%	E	Spain	Spain
Margeriaz Energie	100,00%		France	France
Marysville Unified School District Solar, LLC	51,61%		United States	United States
Mauricio Solar, S.L.U.	100,00%		Spain	Spain

Maxeon Solar Technologies, Pte. Ltd.	36,40%	E	Singapore	Singapore
Messigaz SNC	100,00%		France	France
Methanergy	100,00%		France	France
Missiles & Space Batteries Limited	49,99%	E	United Kingdom	United Kingdom
Miyagi Osato Solar Park G.K.	45,00%	E	Japan	Japan
Miyako Kuzakai Solarpark G.K.	50,00%	E	Japan	Japan
Mojave Solar Investment, LLC	51,61%		United States	United States
Moz LNG1 Financing Company Ltd	26,50%		United Arab Emirates	United Arab Emirates
Moz LNG1 Holding Company Ltd	26,50%		United Arab Emirates	United Arab Emirates
Mozambique MOF Company S.A.	26,50%		Mozambique	Mozambique
Mozambique LNG Marine Terminal Company S.A.	26,50%		Mozambique	Mozambique
Mulilo Prieska PV (RF) Proprietary Limited	27,00%	E	South Africa	South Africa
National Gas Shipping Company Limited	5,00%	E	United Arab Emirates	United Arab Emirates
NEM Solar Targetco, LLC	51,61%		United States	United States
Nevada Joint Union High School District Solar, LLC	51,61%		United States	United States
Nigeria LNG Limited	15,00%	E	Nigeria	Nigeria
NorthStar Energy Management, LLC	51,61%		United States	United States
NorthStar Energy Management Nevada, LLC	51,61%		United States	United States
Nouvelle Centrale Eolienne de Lastours	50,00%	E	France	France
Nuza Solar, S.L.U.	100,00%		Spain	Spain
Nyk Armateur S.A.S.	50,00%	E	France	France
Oman LNG, LLC	5,54%	E	Oman	Oman
Parc Eolien Nordex III	50,00%	E	France	France
Parc Eolien Nordex XXIX	50,00%	E	France	France
Parc Eolien Nordex XXX	50,00%	E	France	France
Parc Solaire De Servian	100,00%		France	France
Parc Solaire De Servian 2	100,00%		France	France
Parque Fotovoltaico Alicahue Solar SPA	100,00%		Chile	Chile
Parque Fotovoltaico Santa Adriana Solar SPA	100,00%		Chili	Chili
Partrederiet Bw Gas Global LNG	49,00%	E	Norway	Norway
Perpetual Sunhine Solar Program I, LLC	51,61%		United States	United States
Perpetual Sunshine I, LLC	51,61%		United States	United States
Pilastra Solar, S.L.U.	100,00%		Spain	Spain
Portalon Solar, S.L.U.	100,00%		Spain	Spain
Pos	100,00%		France	France
Pos Production Ii	60,00%		France	France
Pos Production Iii	70,00%		France	France
Pos Production Iv	70,00%		France	France
Pos Production V	70,00%		France	France
Postigo Solar, S.L.U.	100,00%		Spain	Spain
Qatar Liquefied Gas Company Limited	10,00%	E	Qatar	Qatar
Qatar Liquefied Gas Company Limited (II)	16,70%	E	Qatar	Qatar
Quadrica	51,00%	E	France	France
Quilla Solar, S.L.U.	100,00%		Spain	Spain
RLA Solar SPA	100,00%		Chile	Chile
Rosamond Raven Holdings, LLC	51,61%		United States	United States
Saft (Zhuhai FTZ) Batteries Company Limited	99,99%		China	China
Saft (Zhuhai) Energy Storage Co	99,99%		China	China
Saft AB	99,99%		Sweden	Sweden
Saft Acquisition S.A.S.	99,99%		France	France
Saft America Inc.	99,99%		United States	United States
Saft AS	99,99%		Norway	Norway
Saft Australia PTY Limited	99,99%		Australia	Australia
Saft Batterias SL	99,99%		Spain	Spain
Saft Batterie Italia S.R.L.	99,99%		Italy	Italy
Saft Batterien GmbH	99,99%		Germany	Germany
Saft Batteries Pte Limited	99,99%		Singapore	Singapore
Saft Batteries PTY Limited	99,99%		Australia	Australia
Saft Batterijen B.V.	99,99%		Netherlands	Netherlands
Saft Do Brasil Ltda	99,99%		Brazil	Brazil
Saft EV S.A.S.	99,99%		France	France
Saft Ferak AS	99,99%		Czech Republic	Czech Republic
Saft Groupe S.A.	99,99%		France	France
Saft Hong Kong Limited	99,99%		Hong Kong	Hong Kong
Saft India Private Limited	99,99%		India	India
Saft Japan KK	99,99%		Japan	Japan
Saft Limited	99,99%		United Kingdom	United Kingdom
Saft LLC	99,99%		Russia	Russia
Saft Nife ME Limited	99,99%		Cyprus	Cyprus
Saft S.A.S.	99,99%		France	France
Seagreen HoldCo 1 Limited	51,00%	E	United Kingdom	United Kingdom
SGS Antelope Valley Development, LLC	51,61%		United States	United States
Shams Power Company PJSC	20,00%	E	United Arab Emirates	United Arab Emirates
Societe Champenoise d'Energie	16,00%	E	France	France
Societe d'exploitation de centrales photovoltaiques 1	25,86%		France	France
Societe Economie Mixte Production Energetique Renouvelable	35,92%	E	France	France
Solar Carport NJ, LLC	51,61%		United States	United States
Solar Energies	65,00%	E	France	France
Solar Sail, LLC	51,61%		United States	United States
Solar Sail Commercial DevCo I, LLC	51,61%		United States	United States
Solar Sail Commercial Holdings, LLC	51,61%		United States	United States
Solar Sail Commercial MPW DevCo, LLC	51,61%		United States	United States
Solar Star Always Low Prices Ct, LLC	51,61%		United States	United States
Solar Star Always Low Prices Hi, LLC	51,61%		United States	United States
Solar Star Always Low Prices Ma, LLC	51,61%		United States	United States
Solar Star Arizona HMR-I, LLC	51,61%		United States	United States
Solar Star Arizona II, LLC	51,61%		United States	United States
Solar Star Arizona VII, LLC	51,61%		United States	United States
Solar Star Bay City 2, LLC	51,61%		United States	United States
Solar Star Bear Creek, LLC	51,61%		United States	United States
Solar Star Big Apple CDG, LLC	51,61%		United States	United States
Solar Star Big Apple BTM, LLC	51,61%		United States	United States
Solar Star California I, LLC	51,61%		United States	United States
Solar Star California IV, LLC	51,61%		United States	United States
Solar Star California LXXV, LLC	51,61%		United States	United States
Solar Star California LXXVI, LLC	51,61%		United States	United States
Solar Star California XXXV, LLC	51,61%		United States	United States
Solar Star California XXXVI, LLC	51,61%		United States	United States
Solar Star California XXXVIII, LLC	51,61%		United States	United States
Solar Star Co Co 1, LC	51,61%		United States	United States
Solar Star Co Co 2, LLC	51,61%		United States	United States
Solar Star Coastal Pirate, LLC	51,61%		United States	United States
Solar Star Colorado II, LLC	51,61%		United States	United States
Solar Star CRC Kern Front, LLC	51,61%		United States	United States
Solar Star CRC Yowlumne 1 North, LLC	51,61%		United States	United States
Solar Star CRC Yowlumne 2 South, LLC	51,61%		United States	United States
Solar Star CRC North Shafter, LLC	51,61%		United States	United States

Solar Star CRC Pier A West, LLC	51,61%		United States	United States
Solar Star CRC Mt. Poso, LLC	51,61%		United States	United States
Solar Star Deer Island, LLC	51,61%		United States	United States
Solar Star Energy Center, LLC	51,61%		United States	United States
Solar Star Golden Empire, LLC	51,61%		United States	United States
Solar Star Harbor, LLC	51,61%		United States	United States
Solar Star HD Maryland, LLC	51,61%		United States	United States
Solar Star HD New Jersey, LLC	51,61%		United States	United States
Solar Star HD New York, LLC	51,61%		United States	United States
Solar Star Healthy 1, LLC	51,61%		United States	United States
Solar Star Healthy Lake, LLC	51,61%		United States	United States
Solar Star Hernwood, LLC	51,61%		United States	United States
Solar Star Kale 1, LLC	51,61%		United States	United States
Solar Star Khsd, LLC	51,61%		United States	United States
Solar Star LA County High Desert, LLC	51,61%		United States	United States
Solar Star LCR Culver City, LLC	51,61%		United States	United States
Solar Star LCR Irvine, LLC	51,61%		United States	United States
Solar Star LCR LA 1, LLC	51,61%		United States	United States
Solar Star LCR LA 2, LLC	51,61%		United States	United States
Solar Star LCR Split 1, LLC	51,61%		United States	United States
Solar Star LCR Split 2, LLC	51,61%		United States	United States
Solar Star Lincoln School, LLC	51,61%		United States	United States
Solar Star MA - Tewksbury, LLC	51,61%		United States	United States
Solar Star Massachusetts II, LLC	51,61%		United States	United States
Solar Star Massachusetts III, LLC	51,61%		United States	United States
Solar Star Maxx 1, LLC	51,61%		United States	United States
Solar Star Meridian Park West, LLC	51,61%		United States	United States
Solar Star Parent CRC Kern Front, LLC	51,61%		United States	United States
Solar Star Parent CRC Mt. Poso, LLC	51,61%		United States	United States
Solar Star Parent CRC North Shafter, LLC	51,61%		United States	United States
Solar Star Parent CRC Pier A West, LLC	51,61%		United States	United States
Solar Star Parent CRC Yowlumne 1 North, LLC	51,61%		United States	United States
Solar Star Parent CRC Yowlumne 2 South, LLC	51,61%		United States	United States
Solar Star Parkton, LLC	51,61%		United States	United States
Solar Star Prairie Holding, LLC	51,61%		United States	United States
Solar Star Prime 2, LLC	51,61%		United States	United States
Solar Star Prime 3, LLC	51,61%		United States	United States
Solar Star Prime 4, LLC	51,61%		United States	United States
Solar Star Prime SCK3, LLC	51,61%		United States	United States
Solar Star Rancho CWD I, LLC	51,61%		United States	United States
Solar Star River, LLC	51,61%		United States	United States
Solar Star Track, LLC	51,61%		United States	United States
Solar Star Track Anacostia, LLC	51,61%		United States	United States
Solar Star Track Cheverly, LLC	51,61%		United States	United States
Solar Star Track Southern Ave 1, LLC	51,61%		United States	United States
Solar Star Track Southern Ave 2, LLC	51,61%		United States	United States
Solar Star Track Southern Ave Bus, LLC	51,61%		United States	United States
Solar Star Tranquility, LLC	51,61%		United States	United States
Solar Star Unkety Brook, LLC	51,61%		United States	United States
Solar Star Urbana Landfill Central, LLC	51,61%		United States	United States
Solar Star Urbana Landfill East, LLC	51,61%		United States	United States
Solar Star Vegas 1, LLC	51,61%		United States	United States
Solar Star Woodlands St Cr, LLC	51,61%		United States	United States
SolarBridge Technologies Inc.	51,61%		United States	United States
Solarstar Billerica I, LLC	51,61%		United States	United States
Solarstar Ma I, LLC	51,61%		United States	United States
Solarstar Prime I, LLC	51,61%		United States	United States
SolarStorage Fund A, LLC	51,61%		United States	United States
SolarStorage Fund B, LLC	51,61%		United States	United States
SolarStorage Fund C, LLC	51,61%		United States	United States
SolarStorage Fund D, LLC	51,61%		United States	United States
South Hook LNG Terminal Company Limited	8,35%	E	United Kingdom	United Kingdom
Spinnaker Solar, S.L.U.	100,00%		Spain	Spain
SPWR SS 1, LLC	51,61%		United States	United States
SPWR SunStrong Holdings, LLC	51,61%		United States	United States
SSCA XLI Holding Company, LLC	51,61%		United States	United States
SunPower AssetCo, LLC	51,61%		United States	United States
SunPower Bobcat Solar, LLC	51,61%		United States	United States
SunPower Capital Services, LLC	51,61%		United States	United States
SunPower Capital, LLC	51,61%		United States	United States
SunPower Commercial FTB Construction, LLC	51,61%		United States	United States
SunPower Commercial Holding Company FTB SLB Parent, LLC	51,61%		United States	United States
SunPower Commercial Holding Company FTB SLB, LLC	51,61%		United States	United States
SunPower Corporation	51,61%		United States	United States
SunPower Corporation, Systems	51,61%		United States	United States
SunPower DevCo, LLC	51,61%		United States	United States
SunPower Electrical of New York, LLC	51,61%		United States	United States
SunPower Energia SPA	51,61%		Chile	Chile
SunPower Energy Systems Canada Corporation	51,61%		Canada	Canada
SunPower Equity Holdings, LLC	51,61%		United States	United States
SunPower Foundation	51,61%		United States	United States
SunPower Helix I, LLC	51,61%		United States	United States
SunPower HoldCo, LLC	51,61%		United States	United States
SunPower Manufacturing Oregon, LLC	51,61%		United States	United States
SunPower North America, LLC	51,61%		United States	United States
SunPower NY CDG 1,LLC	51,61%		United States	United States
SunPower Philippines Limited - Regional Operating Headquarters	51,61%		Cayman Islands	Cayman Islands
SunPower Revolver HoldCo I Parent, LLC	51,61%		United States	United States
SunPower Revolver HoldCo I, LLC	51,61%		United States	United States
SunPower Systems Mexico S. de R.L. de C.V.	51,61%		Mexico	Mexico
SunPower Technologies Assetco Holdings, LLC	51,61%		United States	United States
SunStrong Capital Acquisition 3, LLC	51,61%		United States	United States
Sunstrong Capital Holdings, LLC	51,61%	E	United States	United States
SunStrong Partners, LLC	51,61%	E	United States	United States
Sunzil	50,00%	E	France	France
Swingletree Operations, LLC	51,61%		United States	United States
Tadiran Batteries GmbH	99,99%		Germany	Germany
Tadiran Batteries Limited	99,99%		Israel	Israel
Temasol	51,61%		Morocco	Morocco
Tenesol SPV 1	100,00%		France	France
Tianneng Saft Energy Joint Stock Company	39,99%	E	China	China
TIEA Energie	100,00%		France	France
Total Carbon Neutrality Ventures Europe	100,00%		France	France
Total Carbon Neutrality Ventures International	100,00%		France	France
Total Direct Energie - Centrale Electrique Bayet	100,00%		France	France
Total Direct Energie - Centrale Electrique Marchienne-au-Pont	100,00%		Belgium	Belgium
Total Direct Energie - Centrale Electrique Saint Avold	100,00%		France	France

Total Direct Energie Belgium	100,00%		Belgium	Belgium
Total Direct Energie - Centrale Electrique de Toul	100,00%		France	France
Total Direct Energie Generation	100,00%		France	France
Total Direct Energie S.A.	100,00%		France	France
Total Direct Energie Services	100,00%		Belgium	Belgium
Total Direct Energies Centrale Electrique de Pont Sur Sambres	100,00%		France	France
Total E&P Angola Developpement Gaz	100,00%		France	Angola
Total E&P Australia	100,00%		France	Australia
Total E&P Australia Exploration PTY Limited	100,00%		Australia	Australia
Total E&P Australia II	100,00%		France	Australia
Total E&P Australia III	100,00%		France	Australia
Total E&P Barnett USA, LLC	100,00%		United States	United States
Total E&P Holding Ichthys	100,00%		France	France
Total E&P Holdings Australia PTY Limited	100,00%		Australia	Australia
Total E&P Ichthys B.V.	100,00%		Netherlands	Australia
Total E&P Indonesia Mentawai B.V.	100,00%		Netherlands	Indonesia
Total E&P Indonesie	100,00%		France	Indonesia
Total E&P Mauritius Holding Limited	100,00%		Mauritius Island	Mauritius Island
Total E&P Mozambique Area 1, Limitada	100,00%		Mozambique	Mozambique
Total E&P Oman Block 12 B.V.	100,00%		Netherlands	Oman
Total E&P Oman Dev. B.V	100,00%		Netherlands	Oman
Total E&P PNG 2 B.V.	100,00%		Netherlands	Papua New Guinea
Total E&P PNG 5 B.V.	100,00%		Netherlands	Papua New Guinea
Total E&P PNG Limited	100,00%		Papua New Guinea	Papua New Guinea
Total E&P Salmanov	100,00%		France	France
Total E&P Sebuku	100,00%		France	Indonesia
Total E&P Singapore Pte. Ltd.	100,00%		Singapore	Singapore
Total E&P Yamal	100,00%		France	France
Total Energia Italia S.R.L.	100,00%		Italy	Italy
Total Energie Gas GmbH	100,00%		Germany	Germany
Total Energy Investments Tianjin	100,00%		China	China
Total Energy Services	100,00%		France	France
Total Energy Ventures Emerging Markets	100,00%		France	France
Total Eren (c)	29,60%	E	France	France
Total Eren Holding	33,86%	E	France	France
Total Gas & Power Actifs Industriels	100,00%		France	France
Total Gas & Power Asia Private Limited	100,00%		Singapore	Singapore
Total Gas & Power Brazil	100,00%		France	France
Total Gas & Power Chartering Limited	100,00%		United Kingdom	United Kingdom
Total Gas & Power Infrastructure Limited	100,00%		United Kingdom	United Kingdom
Total Gas & Power Limited	100,00%		United Kingdom	United Kingdom
Total Gas & Power North America Inc.	100,00%		United States	United States
Total Gas & Power Services Limited	100,00%		United Kingdom	United Kingdom
Total Gas and Power Limited, London, Meyrin - Geneva Branch	100,00%		Switzerland	Switzerland
Total Gas Pipeline USA Inc.	100,00%		United States	United States
Total Gas Y Electricidad Argentina S.A.	100,00%		Argentina	Argentina
Total Gasandes	100,00%		France	France
Total Gaz Electricite Holdings France	100,00%		France	France
Total GLNG Australia	100,00%		France	Australia
Total GLNG Australia Holdings	100,00%		France	Australia
Total Investment Management Tianjin	100,00%		China	China
Total LNG Angola	100,00%		France	France
Total Midstream Holdings UK Limited	100,00%		United Kingdom	United Kingdom
Total Nature Based Solutions	100,00%		France	France
Total New Energies Limited	100,00%		United Kingdom	United Kingdom
Total New Energies Ventures USA, Inc.	100,00%		United States	United States
Total Offshore Wind Korea	100,00%		France	France
Total Quadran	100,00%		France	France
Total Quadran Caraibes	100,00%		France	France
Total Qadran DK Aps	100,00%		Denmark	Denmark
Total Quadran Nogara	50,00%	E	France	France
Total Quadran Pacific	100,00%		France	France
Total Renewables	100,00%		France	France
Total Renewables USA, LLC	100,00%		United States	United States
Total Solar Assets FZE	100,00%		United Arab Emirates	United Arab Emirates
Total Solar Iberica, S.A.U.	100,00%		Spain	Spain
Total Solar International	100,00%		France	France
Total Solar Intl	100,00%		France	France
Total Solar Latin America SPA	100,00%		Chile	Chile
Total Solar Singapore Pte Ltd	100,00%		Singapore	Singapore
Total Solar (Thailand) Co., Ltd.	100,00%		Thailand	Thailand
Total Strong, LLC	50,00%	E	United States	United States
Total SunPower Energia S.A.	51,61%		Chile	Chile
Total Tengah	100,00%		France	Indonesia
Total Tractebel Emirates O & M Company	50,00%	E	France	United Arab Emirates
Total Tractebel Emirates Power Company	50,00%	E	France	United Arab Emirates
Total USA International, LLC	100,00%		United States	United States
Total Yemen LNG Company Limited	100,00%		Bermuda	Bermuda
TQN Hydro	100,00%		France	France
TQN Solar	100,00%		France	France
TQN Solar Nogara	50,00%	E	France	France
TQN Wind	100,00%		France	France
Transportadora de Gas del Mercosur S.A.	32,68%	E	Argentina	Argentina
Trofeo Solar, S.L.U.	100,00%		Spain	Spain
TSGF SpA	50,00%	E	Chile	Chile
Tugboat Commercial Pledgor, LLC	51,61%		United States	United States
TW2 Tugboat, LLC	51,61%		United States	United States
Ultralight 2 Class B Member, LLC	51,61%		United States	United States
Ultralight 2 Holdco, LLC	51,61%		United States	United States
Ultralight 2 Mezzanine Borrower, LLC	51,61%		United States	United States
Ultralight 2 Mezzanine Pledgor, LLC	51,61%		United States	United States
Ultralight 2 Residential Solar, LL	51,61%		United States	United States
Ultralight 2 SolarBloom, LLC	51,61%		United States	United States
Ultralight 2 SolarBloom Pledgor, LLC	51,61%		United States	United States
Valorene	66,00%		France	France
Vega Solar 1 S.A.P.I. de C.V.	51,61%		Mexico	Mexico
Vega Solar 2 S.A.P.I. de C.V.	51,61%		Mexico	Mexico
Vents D'Oc Energies Renouvelables	100,00%		France	France
Vents D'Oc Centrale D'Energie Renouvelable 17	100,00%		France	France
Vents D'Oc Centrale D'Energie Renouvelable 18	100,00%		France	France
Vertigo	25,00%	E	France	France
Watt Prox	100,00%		France	France
Winergy	100,00%		France	France
WP France 21	100,00%		France	France
WP France 25	100,00%		France	France
Yamal LNG (d)	29,73%	E	Russia	Russia
Yemen LNG Company Limited	39,62%	E	Bermuda	Yemen

	Zeeland Solar B.V.	100,00%		Netherlands	Netherlands
Refining & Chemicals	Appryl S.N.C	50,00%		France	France
	Atlantic Trading and Marketing Financial Inc.	100,00%		United States	United States
	Atlantic Trading and Marketing Inc.	100,00%		United States	United States
	Balzatex S.A.S.	100,00%		France	France
	Barry Controls Aerospace S.N.C.	100,00%		France	France
	BASF Total Petrochemicals LLC	40,00%		United States	United States
	Bay Junction Inc.	100,00%		United States	United States
	Bayport Polymers LLC	50,00%	E	United States	United States
	Borrachas Portalegre Ltda	100,00%		Portugal	Portugal
	BOU Verwaltungs GmbH	100,00%		Germany	Germany
	Buckeye Products Pileline LP	14,66%	E	United States	United States
	Catelsa-Caceres S.A.U.	100,00%		Spain	Spain
	Cie Tunisienne du Caoutchouc S.A.R.L.	100,00%		Tunisia	Tunisia
	Composite Industrie Maroc S.A.R.L.	100,00%		Morocco	Morocco
	Composite Industrie S.A.	100,00%		France	France
	Cosden, LLC	100,00%		United States	United States
	COS-MAR Company	50,00%		United States	United States
	Cray Valley (Guangzhou) Chemical Company, Limited	100,00%		China	China
	Cray Valley Czech	100,00%		Czech Republic	Czech Republic
	Cray Valley HSC Asia Limited	100,00%		China	Hong Kong
	Cray Valley Italia S.R.L.	100,00%		Italy	Italy
	Cray Valley S.A.	100,00%		France	France
	CSSA - Chartering and Shipping Services S.A.	100,00%		Switzerland	Switzerland
	Espa S.A.R.L.	100,00%		France	France
	Ethylene Est	99,98%		France	France
	Feluy Immobati	100,00%		Belgium	Belgium
	Fina Pipeline Co	100,00%		United States	United States
	FINA Technology, Inc.	100,00%		United States	United States
	Gasket (Suzhou) Valve Components Company, Limited	100,00%		China	China
	Gasket International S.R.L.	100,00%		Italy	Italy
	Grande Paroisse S.A.	100,00%		France	France
	Gulf Coast Pipeline LP	14,66%	E	United States	United States
	Hanwha Total Petrochemical Co. Limited	50,00%	E	South Korea	South Korea
	HBA Hutchinson Brasil Automotive Ltda	100,00%		Brazil	Brazil
	Hutchinson (UK) Limited	100,00%		United Kingdom	United Kingdom
	Hutchinson (Wuhan) Automotive Rubber Products Company Limited	100,00%		China	China
	Hutchinson Aeronautique & Industrie Limited	100,00%		Canada	Canada
	Hutchinson Aeroservices S.A.S.	100,00%		France	France
	Hutchinson Aerospace & Industry Inc.	100,00%		United States	United States
	Hutchinson Aerospace GmbH	100,00%		Germany	Germany
	Hutchinson Aftermarket USA Inc.	100,00%		United States	United States
	Hutchinson Antivibration Systems Inc.	100,00%		United States	United States
	Hutchinson Automotive Systems Company, Limited	100,00%		China	China
	Hutchinson Autopartes Mexico S.A. de C.V.	100,00%		Mexico	Mexico
	Hutchinson Borrachas de Portugal Ltda	100,00%		Portugal	Portugal
	Hutchinson Corporation	100,00%		United States	United States
	Hutchinson d.o.o Ruma	100,00%		Serbia	Serbia
	Hutchinson Do Brasil S.A.	100,00%		Brazil	Brazil
	Hutchinson Fluid Management Systems Inc.	100,00%		United States	United States
	Hutchinson GmbH	100,00%		Germany	Germany
	Hutchinson Holding GmbH	100,00%		Germany	Germany
	Hutchinson Holdings UK Limited	100,00%		United Kingdom	United Kingdom
	Hutchinson Iberia S.A.	100,00%		Spain	Spain
	Hutchinson Industrial Rubber Products (Suzhou) Company, Limited	100,00%		China	China
	Hutchinson Industrias Del Caucho SAU	100,00%		Spain	Spain
	Hutchinson Industries Inc.	100,00%		United States	United States
	Hutchinson Japan Company Limited	100,00%		Japan	Japan
	Hutchinson Korea Limited	100,00%		South Korea	South Korea
	Hutchinson Maroc S.A.R.L. AU	100,00%		Morocco	Morocco
	Hutchinson Poland SP ZO.O.	100,00%		Poland	Poland
	Hutchinson Polymers S.N.C.	100,00%		France	France
	Hutchinson Porto	100,00%		Portugal	Portugal
	Hutchinson Precision Sealing Systems Inc.	100,00%		United States	United States
	Hutchinson Research & Innovation Singapore PTE. Limited	100,00%		Singapore	Singapore
	Hutchinson Rubber Products Private Limited Inde	100,00%		India	India
	Hutchinson S.A.	100,00%		France	France
	Hutchinson S.N.C.	100,00%		France	France
	Hutchinson S.R.L. (Italie)	100,00%		Italy	Italy
	Hutchinson S.R.L. (Roumanie)	100,00%		Romania	Romania
	Hutchinson Sales Corporation	100,00%		United States	United States
	Hutchinson Seal De Mexico S.A. de CV.	100,00%		Mexico	Mexico
	Hutchinson Sealing Systems Inc.	100,00%		United States	United States
	Hutchinson SRO	100,00%		Czech Republic	Czech Republic
	Hutchinson Stop - Choc GmbH & CO. KG	100,00%		Germany	Germany
	Hutchinson Suisse S.A.	100,00%		Switzerland	Switzerland
	Hutchinson Transferencia de Fluidos S.A. de C.V.	100,00%		Mexico	Mexico
	Hutchinson Tunisie S.A.R.L.	100,00%		Tunisia	Tunisia
	Hutchinson Vietnam Company Limited	100,00%		Vietnam	Vietnam
	Industrias Tecnicas De La Espuma SL	100,00%		Spain	Spain
	Industrielle Desmarquoy S.N.C.	100,00%		France	France
	Jehier S.A.S.	99,89%		France	France
	Joint Precision Rubber	100,00%		France	France
	KTN Kunststofftechnik Nobitz GmbH	100,00%		Germany	Germany
	Laffan Refinery Company Limited	10,00%	E	Qatar	Qatar
	Laffan Refinery Company Limited 2	10,00%	E	Qatar	Qatar
	LaPorte Pipeline Company LP	20,16%	E	United States	United States
	LaPorte Pipeline GP LLC	19,96%	E	United States	United States
	Le Joint Francais S.N.C.	100,00%		France	France
	Legacy Site Services Funding Inc.	100,00%		United States	United States
	Legacy Site Services LLC	100,00%		United States	United States
	Les Stratifies S.A.S.	100,00%		France	France
	Lone Wolf Land Company	100,00%		United States	United States
	Machen Land Limited	100,00%		United Kingdom	United Kingdom
	Mide Technology Corporation	100,00%		United States	United States
	Naphtachimie	50,00%		France	France
	Novogy, Inc.	100,00%		United States	United States
	Olutex Oberlausitzer Luftfahrttextilien GmbH	100,00%		Germany	Germany
	Pamargan (Malta) Products Limited	100,00%		Malta	Malta
	Pamargan Products Limited	100,00%		United Kingdom	United Kingdom
	Paulstra S.N.C.	100,00%		France	France
	Paulstra Silentbloc S.A.	100,00%		Belgium	Belgium
	PFW Aerospace GmbH	100,00%		Germany	Germany
	PFW Havacilik Sanayi ve Dis Ticaret Limited Sirtketi	100,00%		Turkey	Turkey
	PFW Uk Machining Ltd.	100,00%		United Kingdom	United Kingdom
	Polyblend GmbH	100,00%		Germany	Germany
	Qatar Petrochemical Company Q.S.C. (QAPCO)	20,00%	E	Qatar	Qatar

	Qatofin Company Limited	49,09%	E	Qatar	Qatar
	Resilium	100,00%		Belgium	Belgium
	Retia	100,00%		France	France
	Retia USA LLC	100,00%		United States	United States
	San Jacinto Rail Limited	17,00%	E	United States	United States
	Saudi Aramco Total Refining & Petrochemical Company	37,50%	E	Saoudia Arabia	Saoudia Arabia
	SigmaKalon Group B.V.	100,00%		Netherlands	Netherlands
	Societe Bearnaise De Gestion Industrielle	100,00%		France	France
	Societe du Pipeline Sud-Europeen	35,14%	E	France	France
	SPA Sonatrach Total Entreprise de Polymères	49,00%	E	Algeria	Algeria
	Stillman Seal Corporation	100,00%		United States	United States
	Stop-Choc (UK) Limited	100,00%		United Kingdom	United Kingdom
	Synova	100,00%		France	France
	Techlam S.A.S.	100,00%		France	France
	Thermal Control Systems Automotive Sasu	60,00%		France	France
	Total Activites Maritimes	100,00%		France	France
	Total Atlantic Trading Mexico SA De CV	100,00%		Mexico	Mexico
	Total Corbion PLA B.V.	50,00%	E	Netherlands	Netherlands
	Total Country Services Belgium	100,00%		Belgium	Belgium
	Total Deutschland GmbH (e)	100,00%		Germany	Germany
	Total Downstream UK PLC	100,00%		United Kingdom	United Kingdom
	Total Energy Marketing A/S	100,00%		Denmark	Denmark
	Total European Trading	100,00%		France	France
	Total Laffan Refinery	100,00%		France	France
	Total Laffan Refinery II B.V.	100,00%		Netherlands	Netherlands
	Total Lindsey Oil Refinery Limited	100,00%		United Kingdom	United Kingdom
	Total New Energies USA, Inc.	100,00%		United States	United States
	Total Olefins Antwerp	100,00%		Belgium	Belgium
	Total Opslag En Pijpleiding Nederland NV	55,00%		Netherlands	Netherlands
	Total PAR LLC	100,00%		United States	United States
	Total Petrochemicals (Hong Kong) Limited	100,00%		Hong Kong	Hong Kong
	Total Petrochemicals (Shangai) Limited	100,00%		China	China
	Total Petrochemicals Development Feluy	100,00%		Belgium	Belgium
	Total Petrochemicals Ecaussinnes	100,00%		Belgium	Belgium
	Total Petrochemicals Feluy	100,00%		Belgium	Belgium
	Total Petrochemicals France	100,00%		France	France
	Total Petrochemicals Iberica	100,00%		Spain	Spain
	Total Petrochemicals Pipeline USA Inc.	100,00%		United States	United States
	Total Petrochemicals UK Limited	100,00%		United Kingdom	United Kingdom
	Total Polymers Antwerp	100,00%		Belgium	Belgium
	Total Raffinaderij Antwerpen N.V.	100,00%		Belgium	Belgium
	Total Raffinage France	100,00%		France	France
	Total Raffinerie Mitteldeutschland GmbH	100,00%		Germany	Germany
	Total Refining & Chemicals	100,00%		France	France
	Total Refining & Chemicals Saudi Arabia S.A.S.	100,00%		France	France
	Total Research & Technology Feluy	100,00%		Belgium	Belgium
	Total Splitter USA Inc	100,00%		United States	United States
	Total Trading and Marketing Canada LP	100,00%		Canada	Canada
	Total Trading Asia Pte Limited	100,00%		Singapore	Singapore
	Total Trading Canada Limited	100,00%		Canada	Canada
	Total Trading Products S.A.	100,00%		Switzerland	Switzerland
	TOTSA Total Oil Trading S.A.	100,00%		Switzerland	Switzerland
	Totseanergy	49,00%	E	Belgium	Belgium
	Transalpes S.N.C.	67,00%		France	France
	Trans-Ethylene	99,98%		France	France
	Tssa Total Storage & Services S.A.	100,00%		Switzerland	Switzerland
	Vibrachoc S.A.U.	100,00%		Spain	Spain
	Zeeland Refinery NV	55,00%		Netherlands	Netherlands
Marketing & Services	Air Total (Suisse) S.A.	100,00%		Switzerland	Switzerland
	Air Total International S.A.	100,00%		France	France
	Alvea	100,00%		France	France
	Antilles Gaz	100,00%		France	France
	Argedis	100,00%		France	France
	Aristea	51,00%	E	Belgium	Belgium
	Arteco	49,99%	E	Belgium	Belgium
	AS 24	100,00%		France	France
	AS24 Belgie N.V.	100,00%		Belgium	Belgium
	AS24 Espanola S.A.	100,00%		Spain	Spain
	AS24 Fuel Cards Limited	100,00%		United Kingdom	United Kingdom
	AS24 Lithuanie	100,00%		Lithunia	Lithunia
	AS24 Polska SP ZO.O.	100,00%		Poland	Poland
	AS24 Tankservice GmbH	100,00%		Germany	Germany
	Charvet La Mure Bianco	100,00%		France	France
	Clean Energy	25,63%	E	United States	United States
	Compagnie Petroliere de l'Ouest - CPO	100,00%		France	France
	Cristal Marketing Egypt	84,62%		Egypt	Egypt
	Total Proxi Energies Nord Est	100,00%		France	France
	Elf Oil UK Aviation Limited	100,00%		United Kingdom	United Kingdom
	Elf Oil UK Properties Limited	100,00%		United Kingdom	United Kingdom
	Fioulmarket.fr	100,00%		France	France
	Gapco Kenya Limited	100,00%		Kenya	Kenya
	Gapco Tanzania Limited	100,00%		Tanzania	Tanzania
	Guangzhou Elf Lubricants Company Limited	77,00%		China	China
	Gulf Africa Petroleum Corporation	100,00%		Mauritius Island	Mauritius Island
	Lubricants Vietnam Holding Limited	100,00%		Hong Kong	Hong Kong
	National Petroleum Refiners Of South Africa (PTY) Limited	18,22%	E	South Africa	South Africa
	Progeres S.A.S.	100,00%		France	France
	Quimica Vasca S.A.U.	100,00%		Spain	Spain
	Saudi Total Petroleum Products	51,00%	E	Saoudia Arabia	Saoudia Arabia
	Servauto Nederland B.V.	100,00%		Netherlands	Netherlands
	Societe d'exploitation de l'usine de Rouen	98,98%		France	France
	Societe mahoraise de stockage de produits petroliers	100,00%		France	France
	Societe Urbaine des Petroles	100,00%		France	France
	S-Oil Total Lubricants Company Limited	50,00%	E	South Korea	South Korea
	South Asia LPG Private Limited	50,00%	E	India	India
	Stedis	100,00%		France	France
	Tas'Helat Marketing Company	50,00%	E	Saoudia Arabia	Saoudia Arabia
	Total (Africa) Limited	100,00%		United Kingdom	United Kingdom
	Total (Fiji) Limited	100,00%		Fiji Islands	Fiji Islands
	Total Additifs et Carburants Speciaux	100,00%		France	France
	Total Africa S.A.	100,00%		France	France
	Total Aviation & Export Limited	100,00%		Zambia	Zambia
	Total Belgium	100,00%		Belgium	Belgium
	Total Bitumen Deutschland GmbH	100,00%		Germany	Germany
	Total Bitumen UK Limited	100,00%		United Kingdom	United Kingdom
	Total Botswana (PTY) Limited	50,10%		Botswana	Botswana
	Total Brasil Diesel Comercio e Transportes Ltda	100,00%		Brazil	Brazil

	Total Brasil Distribuidora Ltda	100,00%		Brazil	Brazil
	Total Burkina	100,00%		Burkina Faso	Burkina Faso
	Total Cambodge	100,00%		Cambodia	Cambodia
	Total Cameroun	67,01%		Cameroon	Cameroon
	Total Caraibes	100,00%		France	France
	Total Ceska Republika S.R.O.	100,00%		Czech Republic	Czech Republic
	Total China Investment Company Limited	100,00%		China	China
	Total Congo	100,00%		Congo	Congo
	Total Corse	100,00%		France	France
	Total Cote D'Ivoire	72,99%		Côte d'Ivoire	Côte d'Ivoire
	Total Denmark A/S	100,00%		Denmark	Denmark
	Total Egypt	84,62%		Egypt	Egypt
	Total Espana S.A.	100,00%		Spain	Spain
	Total Especialidades Argentina	100,00%		Argentina	Argentina
	Total Ethiopia	100,00%		Ethiopia	Ethiopia
	Total Fluides	100,00%		France	France
	Total Freeport Corporation	51,00%	E	Philippines	Philippines
	Total Fuels Wuhan Company Limited	100,00%		China	China
	Total Glass Lubricants Europe GmbH	100,00%		Germany	Germany
	Total Guadeloupe	100,00%		France	Guadeloupe
	Total Guinea Ecuatorial	70,00%		Equatorial Guinea	Equatorial Guinea
	Total Guinee	100,00%		Guinea	Guinea
	Total Holding Asie	100,00%		France	France
	Total Holding India	100,00%		France	France
	Total Italia	100,00%		Italy	Italy
	Total Jamaica Limited	100,00%		Jamaica	Jamaica
	Total Jordan PSC	100,00%		Jordan	Jordan
	Total Kenya	93,96%		Kenya	Kenya
	Total Liban	100,00%		Lebanon	Lebanon
	Total Liberia Inc.	100,00%		Liberia	Liberia
	Total Lubricants (China) Company Limited	77,00%		China	China
	Total Lubricants Taiwan Limited	63,00%		Taiwan	Taiwan
	Total Lubrifiants	99,98%		France	France
	Total Lubrifiants Algerie	78,90%		Algeria	Algeria
	Total Lubrifiants Service Automobile	99,98%		France	France
	Total Luxembourg S.A.	100,00%		Luxembourg	Luxembourg
	Total Madagasikara S.A.	79,44%		Madagascar	Madagascar
	Total Malawi Limited	100,00%		Malawi	Malawi
	Total Mali	100,00%		Mali	Mali
	Total Marine Fuels	100,00%		Singapore	Singapore
	Total Marketing Egypt	84,62%		Egypt	Egypt
	Total Marketing et Services Angola S.A.	50,00%	E	Angola	Angola
	Total Marketing France	100,00%		France	France
	Total Marketing Gabon	90,00%		Gabon	Gabon
	Total Marketing Middle East Free Zone	100,00%		United Arab Emirates	United Arab Emirates
	Total Marketing Services	100,00%		France	France
	Total Marketing Tchad	100,00%		Chad	Chad
	Total Marketing Uganda	100,00%		Uganda	Uganda
	Total Maroc	55,00%		Morocco	Morocco
	Total Mauritius	55,00%		Mauritius Island	Mauritius Island
	Total Mayotte	100,00%		France	Mayotte
	Total Mexico S.A. de C.V.	100,00%		Mexico	Mexico
	Total Mineraloel und Chemie GmbH	100,00%		Germany	Germany
	Total Mineralol GmbH	100,00%		Germany	Germany
	Total Mozambique	100,00%		Mozambique	Mozambique
	Total Namibia (PTY) Limited	50,10%		Namibia	Namibia
	Total Nederland NV	100,00%		Netherlands	Netherlands
	Total Niger S.A.	100,00%		Niger	Niger
	Total Nigeria PLC	61,72%		Nigeria	Nigeria
	Total Oil Asia-Pacific Pte Limited	100,00%		Singapore	Singapore
	Total Oil India Private Limited	100,00%		India	India
	Total Outre-Mer	100,00%		France	France
	Total Pacifique	100,00%		France	New Caledonia
	Total Paiement Services	100,00%		France	France
	Total Parco Pakistan Limited	50,00%	E	Pakistan	Pakistan
	Total Petroleum (Shanghai) Company Limited	100,00%		China	China
	Total Petroleum Ghana Limited	76,74%		Ghana	Ghana
	Total Petroleum Puerto Rico Corp.	100,00%		Puerto Rico	Puerto Rico
	Total Philippines Corporation	51,00%	E	Philippines	Philippines
	Total Polska	100,00%		Poland	Poland
	Total Polynesie	100,00%		France	French Polynesia
	Total RDC	60,00%		Democratic Republic of Congo	Democratic Republic of Congo
	Total Reunion	100,00%		France	Reunion
	Total Romania S.A.	100,00%		Romania	Romania
	Total Senegal	69,14%		Senegal	Senegal
	Total Singapore Shared Services Pte Limited	100,00%		Singapore	Singapore
	Total Sinochem Fuels Company Limited	49,00%	E	China	China
	Total Sinochem Oil Company Limited	49,00%	E	China	China
	Total South Africa (PTY) Limited	50,10%		South Africa	South Africa
	Total Specialties USA Inc.	100,00%		United States	United States
	Total Supply MS S.A.	100,00%		Switzerland	Switzerland
	Total Swaziland (PTY) Limited	50,10%		Swaziland	Swaziland
	Total Tanzania Limited	100,00%		Tanzania	Tanzania
	Total Tianjin Manufacturing Company Limited	77,00%		China	China
	Total Togo	76,72%		Togo	Togo
	Total Tunisie	100,00%		Tunisia	Tunisia
	Total Turkey Pazarlama	100,00%		Turkey	Turkey
	Total UAE LLC	49,00%		United Arab Emirates	United Arab Emirates
	Total Uganda Limited	100,00%		Uganda	Uganda
	Total UK Limited	100,00%		United Kingdom	United Kingdom
	Total Ukraine LLC	100,00%		Ukraine	Ukraine
	Total Vietnam Limited	100,00%		Vietnam	Vietnam
	Total Vostok	100,00%		Russia	Russia
	Total Zambia	100,00%		Zambia	Zambia
	Total Zimbabwe	80,00%		Zimbabwe	Zimbabwe
	Totalgaz Vietnam LLC	100,00%		Vietnam	Vietnam
	Trapil	35,50%	E	France	France
	Upbeatprops 100 PTY Limited	50,10%		South Africa	South Africa
	V Energy S.A.	70,00%		Dominican Republic	Dominican Republic
Corporate	Albatros	100,00%		France	France
	Elf Aquitaine Fertilisants	100,00%		France	France
	Elf Aquitaine Inc.	100,00%		United States	United States
	Elf Forest Products LLC	100,00%		United States	United States
	Omnium Reinsurance Company S.A.	100,00%		Switzerland	Switzerland
	Pan Insurance Limited	100,00%		Ireland	Ireland
	Septentrion Participations	100,00%		France	France
	Socap S.A.S.	100,00%		France	France

	Societe Civile Immobiliere CB2	100,00%	France	France
	Sofax Banque	100,00%	France	France
	Total American Services Inc.	100,00%	United States	United States
	Total Capital	100,00%	France	France
	Total Capital Canada Limited	100,00%	Canada	Canada
	Total Capital International	100,00%	France	France
	Total Consulting	100,00%	France	France
	Total Corporate Management (Beijing) Company Limited	100,00%	China	China
	Total Delaware Inc.	100,00%	United States	United States
	Total Developpement Regional S.A.S.	100,00%	France	France
	Total Digital Factory	100,00%	France	France
	Total Facilities Management Services (TFMS)	100,00%	France	France
	Total Finance	100,00%	France	France
	Total Finance Corporate Services Limited	100,00%	United Kingdom	United Kingdom
	Total Finance Global Services (TOFIG)	100,00%	Belgium	Belgium
	Total Finance international B.V.	100,00%	Netherlands	Netherlands
	Total Finance Nederland B.V.	100,00%	Netherlands	Netherlands
	Total Finance USA Inc.	100,00%	United States	United States
	Total Funding Nederland B.V.	100,00%	Netherlands	Netherlands
	Total Funding Nederland International B.V.	100,00%	Netherlands	Netherlands
	Total Gestion Filiales	100,00%	France	France
	Total Gestion USA	100,00%	France	France
	Total Global Financial Services	100,00%	France	France
	Total Global Human Ressources Services	100,00%	France	France
	Total Global Information Technology Services Belgium	99,98%	Belgium	Belgium
	Total Global IT Services (TGITS)	100,00%	France	France
	Total Global Procurement (TGP)	100,00%	France	France
	Total Global Procurement Belgium S.A. (TGPB)	100,00%	Belgium	Belgium
	Total Global Services Bucharest	99,01%	Romania	Romania
	Total Global Services Philippines	100,00%	Philippines	Philippines
	Total Holding Allemagne	100,00%	France	France
	Total Holdings Europe	100,00%	France	France
	Total Holdings International B.V.	100,00%	Netherlands	Netherlands
	Total Holdings S.A.S.	100,00%	France	France
	Total Holdings UK Limited	100,00%	United Kingdom	United Kingdom
	Total Holdings USA Inc.	100,00%	United States	United States
	Total International NV	100,00%	Netherlands	Netherlands
	Total Investments	100,00%	France	France
	Total Learning Solutions (TLS)	100,00%	France	France
	Total Operations Canada Limited	100,00%	Canada	Canada
	Total Overseas Holding (PTY) Limited	100,00%	South Africa	Netherlands
	Total Participations	100,00%	France	France
	Total Petrochemicals & Refining S.A./NV (e)	100,00%	Belgium	Belgium
	Total Petrochemicals & Refining USA Inc. (e)	100,00%	United States	United States
	Total Petrochemicals Security USA Inc.	100,00%	United States	United States
	Total Resources (Canada) Limited	100,00%	Canada	Canada
	TOTAL S.E.	-	France	France
	Total Treasury	100,00%	France	France
	Total UK Finance Limited	100,00%	United Kingdom	United Kingdom

(a) % of control different from % of interest : 49%
(b) % of control different from % of interest : 10%
(c) % of control different from % of interest : 5.80%
(d) % of control different from % of interest : 20.02%
(e) Multi-segment entities