established upon approval by the European Commission. The IASB clarifies the criteria that should be used to determine whether the liabilities should be classified as current or non-current. The amendments aim to promote consistency in the application of the requirements helping companies to determine whether payables and other liabilities with an uncertain settlement date should be classified as current (due or potentially to be settled within a year) or non-current. In addition, they include clarifications regarding the classification requirements of payables that an entity could extinguish through conversion to equity. The early application of these amendments is permitted.
Snam is analysing the standards and interpretations in question, where applicable, to assess whether their adoption will have a significant impact on the financial statements.

8) CASH AND CASH EQUIVALENTS

Cash and cash equivalents of €2,851 million (€1,872 million at 31 December 2018) refer mainly to bank current and deposit accounts that can be collected quickly (€2,054 million) and short-term liquidity use transactions, due in less than 90 days, with banking institutions with high credit ratings (€750 million) and to cash and cash equivalents at Snam International BV (€20 million) and Gasrule Insurance DAC (€19 million).
Borrowing interest rates on short-term liquidity use transactions and on bank deposit accounts that can be collected quickly are slightly more than 0%.
The book value of cash and cash equivalents approximates to their fair value. They are not subject to any usage restrictions.
A comprehensive analysis of the financial situation and major cash commitments during the year can be found in the cash flow statement.

9) TRADE RECEIVABLES AND OTHER CURRENT AND NON-CURRENT RECEIVABLES

Trade receivables and other current receivables equal to €1,376 million (€1,347 million at 31 December 2018) and other non-current receivables equal to €3 million (€1 million at 31 December 2018) break down as follows:

	31.12.2018			31.12.2019		
(millions of €)	**Current**	**Non-current**	**Total**	**Current**	**Non-current**	**Total**
Trade receivables	1,247		**1,247**	**1,217**		**1,217**
Financial receivables	10	1	**11**		**3**	**3**
- short-term						
- long-term	10	1	**11**		**3**	**3**
Receivables from investment/divestment activities	9		**9**	**8**		**8**
Other receivables	81		**81**	**151**		**151**
	1,347	**1**	**1,348**	**1,376**	**3**	**1,379**

Trade receivables (€1,217 million; €1,247 million at 31 December 2018) mainly refer to the natural gas transportation (€993 million) and storage (€152 million) segments.
Trade receivables relating to the storage sector (€152 million) include the VAT receivable invoiced to uses for the use of strategic gas collected and not replenished (€77 million).
Receivables are reported net of the provision for impairment losses (€102 million; €137 million at 31 December 2018). This provision essentially relates to impairment losses recorded in previous years on receivables from the balancing service pursuant to resolution 608/2015/R/gas through which the Authority provided for partial payment to the balancing supervisor (Snam Rete Gas) of uncollected receivables for the period from 1 December 2011 to 23 October 2012[11] (€91 million, including the relative interest).

Changes in the provision for impairment losses on receivables during the year are shown below:

(millions of €)	Provision for impairment losses at 31.12.2018	Provisions	Utilisations for excess	Provision for impairment losses at 31.12.2019
Trade receivables	137	1	(36)	102
	137	**1**	**(36)**	**102**

Net uses of the provision for impairment losses (€35 million) involve the release to the income statement of the provision for impairment losses following the announcement by the Council of State on 5 March 2020 confirming the ruling of the Milan Regional Administrative Court of 2017, ratified the recognition, by the Authority to the company, of part of the receivables not collected relating to the balancing activities for the period 1 December 2011-23 October 2012[12].
Financial receivables amount to €3 million (€11 million at 31 December 2018). Compared with 31 December 2018, receivables fell by €8 million essentially due to the conversion into equity, in February 2019, of the residual portion of the Shareholders' Loan to TAP (€10 million).
Receivables for investment/divestment activities (€8 million; €9 million at 31 December 2018) include receivables for private contributions recorded for third-party interference works involving the transportation sector (compensation).

Other receivables (€151 million; €81 million at 31 December 2018) comprise:

(millions of €)	31.12.2018	31.12.2019
IRES receivables for the national tax consolidation scheme	9	9
Other receivables:	72	142
- Energy and Environmental Services Fund (CSEA)	63	124
- Advances to suppliers	4	6
- Other	5	12
	81	**151**

11 For more information, please see Note 26 "Guarantees, commitments and risks – Disputes – Recovering receivables from certain users of the transportation and balancing system".
12 For more details, see Note 26, "Guarantees, commitments and risks – Disputes", of the Notes to the consolidated financial statements.

IRES receivables for the national tax consolidation scheme (€9 million, compared with €9 million at 31 December 2018) related mainly to receivables from the former parent company, Eni, relating to the IRES refund request resulting from the partial IRAP deduction relating to tax years 2007 to 2011 (pursuant to Decree-Law 201/2011).
Receivables from the CSEA (€124 million) refer to the transportation sector and are attributable to the gas settlement, introduced by the Authority through resolutions 670/2017/R/gas and 782/2017/R/gas, and to the incentives paid to the balancing manager.
All receivables are in euros. The fair value measurement of trade and other receivables has no material impact considering the short period of time from when the receivable arises and its due date and the contractual terms and conditions.

The seniority of trade and other receivables is shown below:

	31.12.2019			31.12.2019		
(millions of €)	**Trade receivables**	**Other receivables (**)**	**Total**	**Trade receivables (*)**	**Other receivables (**)**	**Total**
Non-overdue and non-impaired receivables	1,134	97	**1,231**	**1,085**	**162**	**1,247**
Overdue and non-impaired receivables:	113	4	**117**	**132**		**132**
- 0-3 months overdue	15		**15**	**11**		**11**
- 3-6 months overdue	3		**3**	**7**		**7**
- 6-12 months overdue	1		**1**	**26**		**26**
- more than 12 months overdue	94	4	**98**	**88**		**88**
	1,247	**101**	**1,348**	**1,217**	**162**	**1,379**

(*) The exposure is net of ovedue and impaired receivables for an amount equal to €102 millions (€137 millions at 31 December 2018).
(**) Including financial receivables, receivables from investment/divestment activities and other receivables.

Overdue and non- impaired receivables (€132 million, €117 million at 31 December 2018) mainly refer to the storage segment (€77 million), principally comprising VAT[13] billed to users in previous years for the use of strategic gas which was withdrawn but not replenished by them pursuant to the provisions established in the Storage Code.
Receivables from related parties are described in Note 35 "Related-party transactions".
Specific information on credit risk can be found in Note 26 "Guarantees, commitments and risks - Credit risk".

13 As provided for under the applicable legislation, notices of VAT changes may be issued at the end of bankruptcy proceedings or unsuccessful enforcement proceedings.

10) INVENTORIES

Inventories, which amount to €475 million (€472 million at 31 December 2018) are analysed in the table below:

(millions of €)	31.12.2018 Gross amount	31.12.2018 Impairment losses	31.12.2018 Net value	31.12.2019 Gross amount	31.12.2019 Impairment losses	31.12.2019 Net value
Inventories (current assets)	**155**	**(46)**	**109**	**157**	**(45)**	**112**
Raw materials, consumables and supplies	103	(14)	**89**	**106**	**(13)**	**93**
Finished products and merchandise	52	(32)	**20**	**51**	**(32)**	**19**
Compulsory inventories (Non-current assets)	**363**		**363**	**363**		**363**
	518	**(46)**	**472**	**520**	**(45)**	**475**

Inventories (current assets)

Inventories of raw materials, consumables and supplies (€93 million; €89 million at 31 December 2018) primarily include stock materials relating to the pipeline network (€38 million) and to storage plants (€11 million), and natural gas used for transportation activities (€19 million).
Inventories of finished products and merchandise (€19 million, €20 million at 31 December 2018) mainly refer to the natural gas present in the storage system (619 million standard cubic metres, unchanged from 31 December 2018) and do not include compulsory inventories, recognised under "Non-current assets" in the balance sheet.
Inventories are reported net of the provision for impairment losses of €45 million (€46 million at 31 December 2018). The provision essentially involves the impairment loss (€30 million) recorded in 2014 for 0.4 billion cubic metres of natural gas used under the scope of storage activities of strategic gas unduly withdrawn by some service users in 2010 and 2011[14].

Changes in the provision for impairment losses during the year are shown below:

(millions of €)	Provision for impairment losses at 31.12.2018	Other changes	Provision for impairment losses at 31.12.2019
Raw materials, consumables and supplies	14	(1)	**13**
Finished products and merchandise	32		**32**
	46	**(1)**	**45**

Inventories are not collateralised. Inventories do not secure liabilities, nor are they recognised at net realisation value.

14 For more information regarding the progress of the lawsuits under way, see Note 26 "Guarantees, commitments and risks - Disputes and other measures - Recovering receivables from users of the storage system".

Compulsory inventories (non-current assets)

Compulsory inventories (€363 million, unchanged from 31 December 2018) comprise minimum quantities of natural gas that the storage companies are obliged to hold pursuant to Presidential Decree 22 of 31 January 2001.
The quantities of natural gas in stock, equal to around 4.5 billion standard cubic metres, are determined annually by the Ministry of Economic Development[15]:

11) CURRENT INCOME TAX ASSETS/LIABILITIES AND OTHER CURRENT TAX ASSETS/LIABILITIES

Current income tax assets/liabilities and other current tax assets/liabilities break down as follows:

(millions of €)	31.12.2018	31.12.2019
Current income tax assets	**10**	**12**
IRES	9	**9**
IRAP	1	
Other assets		**3**
Other current tax assets	**7**	**14**
VAT	4	**11**
Other taxes	3	**3**
	17	**26**
Current income tax liabilities	**(14)**	**(26)**
IRES	(13)	**(22)**
IRAP	(1)	**(4)**
Other current tax liabilities	**(9)**	**(9)**
IRPEF withholdings for employees	(7)	**(7)**
VAT	(1)	**(1)**
Other taxes	(1)	**(1)**
	(23)	**(35)**

Current income tax assets of €12 million (€10 million at 31 December 2018) mainly involve IRES receivables (€9 million) following the receivables for additional IRES (€8 million).
Other current tax assets of €14 million (€7 million at 31 December 2018) mainly refer to VAT receivables (€11 million).

15 On 8 January 2019, the Ministry confirmed the total volume of strategic storage for the contractual year 2019-2020 (1 April 2019-31 March 2020) at 4.62 billion cubic metres or approximately 48,846 gigawatt hours GWh, unchanged compared with the thermal year 2018-2019 (1 April 2018-31 March 2019). The Stogit share was unchanged at 4.5 billion cubic metres.

Current income tax liabilities of €26 million (€14 million at 31 December 2018) mainly refer to IRES payables in connection with the national tax consolidation scheme (€22 million).
Other current tax liabilities of €9 million (the same as at 31 December 2018) mainly relate to IRPEF (personal income tax) withholdings for employees (€7 million).
Taxes pertaining to the year under review are shown in Note 32 - "Income taxes".

12) OTHER CURRENT AND NON-CURRENT ASSETS

Other current assets, which amount to €19 million (€27 million at 31 December 2018) and *other non-current assets* of €26 million (€36 million at 31 December 2018) break down as follows:

	31.12.2018			31.12.2019		
(millions of €)	**Current**	**Non-current**	**Total**	**Current**	**Non-current**	**Total**
Regulated activities	16	10	**26**	**1**	**1**	**2**
Market value of derivative financial instruments	4		**4**			
Other assets:	7	26	**33**	**18**	**25**	**43**
- Prepayments	6	13	**19**	**9**	**10**	**19**
- Security deposits		13	**13**		**13**	**13**
- Other	1		**1**	**9**	**2**	**11**
	27	**36**	**63**	**19**	**26**	**45**

The item "Other assets" (€43 million; €33 million at 31 December 2018) essentially comprises:

- prepayments (€19 million), relating to upfront fees and the substitute tax on revolving credit lines (€14 million) and to insurance premiums (€5 million). The current and non-current portions amount to €9 million and €10 million respectively (€6 million and €13 million at 31 December 2018);
- security deposits (€13 million) issued to support operations mainly relating to the natural gas transportation sector.

13) PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment, which amounts to €16,439 million (€16,153 million at 31 December 2018) changed as follows:

	31.12.2018						
(millions of €)	**Land**	**Buildings**	**Plant and equipment**	**Industrial and commercial equipment**	**Other assets**	**Non-current assets under construction and payments on account**	**Total**
Cost at 31.12.2017	**167**	**443**	**22,205**	**108**	**210**	**1,138**	**24,271**
Investments	2		3	7		793	805
Disposals	(1)	(4)	(17)	(3)	(2)	(4)	(31)
Change in scope of consolidation			1		1		2
Other changes	3	33	1,003	5	26	(1,111)	(41)
Cost at 31.12.2018	**171**	**472**	**23,195**	**117**	**235**	**816**	**25,006**
Provisions for amortisation and depreciation at 31.12.2017		**(107)**	**(7,862)**	**(53)**	**(153)**		**(8,175)**
Total amortisation and depreciation		(11)	(578)	(12)	(21)		(622)
Disposals		2	10	3	1		16
Change in scope of consolidation			(1)				(1)
Other changes			(1)				(1)
Provisions for amortisation and depreciation at 31.12.2018		**(116)**	**(8,432)**	**(62)**	**(173)**		**(8,783)**
Provision for impairment losses at 31.12.2017	**(1)**	**(4)**	**(25)**			**(33)**	**(63)**
(Impairment losses)/reversals			(2)			(6)	(8)
Disposals			1				1
Provision for impairment losses at 31.12.2018	**(1)**	**(4)**	**(26)**			**(39)**	**(70)**
Net balance at 31.12.2017	**166**	**332**	**14,318**	**55**	**57**	**1,105**	**16,033**
Net balance at 31.12.2018	**170**	**352**	**14,737**	**55**	**62**	**777**	**16,153**

	31.12.2019						
(millions of €)	**Land**	**Buildings**	**Plant and equipment**	**Industrial and commercial equipment**	**Other assets**	**Non-current assets under construction and payments on account**	**Total**
Cost at 31.12.2018	**171**	**472**	**23,195**	**117**	**235**	**816**	**25,006**
Investments			5	12	1	843	861
Disposals		(1)	(23)	(7)	(1)	(4)	(36)
Change in scope of consolidation		2	74	1		2	79
- *of which leased assets as right-of-use assets*		*2*					*2*
Other changes	2	11	682	5	50	(717)	33
Leased assets as rights-of-use assets (*)	3	20			2		25
Cost at 31.12.2019	**176**	**504**	**23,933**	**128**	**287**	**940**	**25,968**
Provisions for amortisation and depreciation at 31.12.2018		**(116)**	**(8,432)**	**(62)**	**(173)**		**(8,783)**
Total amortisation and depreciation		(11)	(605)	(12)	(22)		(650)
Disposals			20	7	1		28
Change in scope of consolidation			(18)				(18)
Leased assets as rights-of-use assets	(1)	(4)			(1)		(6)
Provisions for amortisation and depreciation at 31.12.2019	**(1)**	**(131)**	**(9,035)**	**(67)**	**(195)**		**(9,429)**
Provision for impairment losses at 31.12.2018	**(1)**	**(4)**	**(26)**			**(39)**	**(70)**
(Impairment losses)/reversals			(3)			(27)	(30)
Provision for impairment losses at 31.12.2019	**(1)**	**(4)**	**(29)**			**(66)**	**(100)**
Net balance at 31.12.2018	**170**	**352**	**14,737**	**55**	**62**	**777**	**16,153**
Net balance at 31.12.2019	**174**	**369**	**14,869**	**61**	**92**	**874**	**16,439**

(*) It includes first application effects of IFRS 16 (€20 millions) and changes of the year (€5 millions).

Property, plant and equipment (€16,439 million, compared with €16,153 million at 31 December 2018) relates mainly to transportation (€13,401 million), storage (€2,845 million) and regasification (€100 million) infrastructure.
Investments[16] (€861 million) refer mainly to the transportation (€723 million) and storage (€103 million) segments.
During the year, Snam capitalised €10 million of financial expenses (€12 million in 2018).
Depreciation (€656 million), included leased assets as right-of-use assets, refers to economic and technical depreciation determined on the basis of the useful life of the assets or their remaining possible use by the Company.
Capital contributions recorded against the net value of property, plant and equipment stood at €389 million (€385 million at 31 December 2018).
Disposals (€8 million, net of the related provisions for depreciation, amortisation and impairment losses) mainly relate to transportation segment assets.

16 Investments by business segment are shown in the "Business segment operating performance" section of the Directors' Report.

Impairment losses and reversals (€30 million) refer essentially to the write-down of assets not yet ready for use in the transportation segment.
The value of plant and equipment includes site dismantling and restoration costs (€266 million), relating mainly to the natural gas storage (€165 million) and transportation (€100 million) sectors.
Other changes (€33 million) relate to: (i) the revised downgrading of the estimate of site dismantling and restoration costs essentially refers to the storage sector, where the effects were partly absorbed by the reduction in anticipated discounting rates (€42 million in total); (ii) the change in inventories of pipes and ancillary materials used in the construction of plants, with reference to the natural gas transportation sector (€5 million); (iii) contributions to third-party interference works (compensation -€14 million).
Contractual commitments to purchase property, plant and equipment, and to provide services related to the construction thereof, are reported in Note 26 "Guarantees, commitments and risks".
There are no real guarantees on property, plant and equipment, with the exception of some property relating to two subsidiaries that came under the scope of consolidation in November 2019, with mortgages as collateral for bank loans (worth a total of around €70 million, double the original amount of the loans). The above real guarantees were cancelled in January 2020 in view of the repayment in full of the bank loans.

Property, plant and equipment by business segment

Property, plant and equipment by operating segment break down as follows:

(millions of €)	**31.12.2018**	**31.12.2019**
Historical cost	**25,006**	**25,968**
Transportation	20,934	**21,645**
Storage	3,893	**4,020**
Regasification	158	**176**
Corporate and other activities	21	**127**
Provision for amortisation, depreciation and impairment losses	**(8,853)**	**(9,529)**
Transportation	(7,690)	**(8,244)**
Storage	(1,080)	**(1,175)**
Regasification	(72)	**(76)**
Corporate and other activities	(11)	**(34)**
Net balance	**16,153**	**16,439**
Transportation	13,244	**13,401**
Storage	2,813	**2,845**
Regasification	86	**100**
Corporate and other activities	10	**93**

14) INTANGIBLE ASSETS

Intangible assets, which amounted to €990 million (€907 million at 31 December 2018) break down as follows:

	31.12.2018					
	Finite useful life				Indefinite useful life	
(millions of €)	Industrial patent rights and intellectual property rights	Concessions, licences, trademarks and similar rights	Other intangible assets	Non-current assets under construction and payments on account	Goodwill	Total
Cost at 31.12.2017	**701**	**763**	**42**	**27**	**27**	**1,560**
Investments				77		**77**
Disposals	(1)					**(1)**
Change in scope of consolidation		2	19		9	**30**
Other changes	**63**	**4**	**3**	**(66)**	**6**	**10**
Cost at 31.12.2018	**763**	**769**	**64**	**38**	**42**	**1,676**
Provisions for amortisation and depreciation at 31.12.2017	**(571)**	**(97)**	**(42)**			**(710)**
Total amortisation and depreciation	(54)	(4)	(2)			**(60)**
Disposals	1					**1**
Provisions for amortisation and depreciation at 31.12.2018	**(624)**	**(101)**	**(44)**			**(769)**
Provision for impairment losses at 31.12.2017						
Provision for impairment losses at 31.12.2018						
Net balance at 31.12.2017	**130**	**666**		**27**	**27**	**850**
Net balance at 31.12.2018	**139**	**668**	**20**	**38**	**42**	**907**

	31.12.2019					
	Finite useful life				Indefinite useful life	
(millions of €)	Industrial patent rights and intellectual property rights	Concessions, licences, trademarks and similar rights	Other intangible assets	Non-current assets under construction and payments on account	Goodwill	Total
Cost at 31.12.2018	763	769	64	38	42	1,676
Investments				102		102
Change in scope of consolidation		31	7		9	47
Other changes	91	3	(1)	(93)		
Cost at 31.12.2019	854	803	70	47	51	1,825
Provisions for amortisation and depreciation at 31.12.2018	(624)	(101)	(44)			(769)
Total amortisation and depreciation	(61)	(4)	(1)			(66)
Provisions for amortisation and depreciation at 31.12.2019	(685)	(105)	(45)			(835)
Provision for impairment losses at 31.12.2018						
Provision for impairment losses at 31.12.2019						
Net balance at 31.12.2018	139	668	20	38	42	907
Net balance at 31.12.2019	169	698	25	47	51	990

Industrial patent rights and intellectual property rights of €169 million (€139 million at 31 December 2018) mainly concern information systems and applications in support of operating activities.
Concessions, licences, trademarks and similar rights (€698 million; €668 million at 31 December 2018) refer essentially to concessions for natural gas storage activities (€656 million) and, specifically to the concessions of Settala (€226 million), Sergnano (€126 million), Fiume Treste (€91 million) and Brugherio (€56 million). The value of the storage concessions is represented by the reserves of natural gas in the fields ("cushion gas"[17]). The value also includes the fair value attributed at the Purchase Price Allocation of Renerwaste, as governed by IFRS3, related to the multi-year concessions for running the three waste management plants.

The change in the scope of consolidation (€47 million) refers to intangible fix assets recorded following the acquisition transactions completed in November 2019 by the companies Renerwaste and TEA Servizi.
The increase in assets with an indefinite useful life (€9 million) refers to the goodwill following the acquisition transactions of the companies Renerwaste (€8 million) and TEA Servizi (€1 million)[18]. This goodwill was allocated to the CGUs represented by these companies acquired.

17 Cushion gas is not depreciated.

18 For further information, see Note 25 - "Business combinations".

Investments (€102 million) refer mainly to the transportation (€88 million) segment[19].
Amortisation (€66 million) refers to economic and technical amortisation determined on the basis of the finite useful life of the intangible assets or their remaining possible use by the Company.
Contractual commitments to purchase intangible assets, and to provide services related to the development thereof, are reported in Note 26 - "Guarantees, commitments and risks".

As required by the reference accounting principle (IAS 36), assets and goodwill are subject to impairment testing. Impairment tests are conducted for all CGUs where there are impairment indicators and/or goodwill allocated to the CGUs. In 2019, the tests were also carried out for the main CGUs irrespective of whether there were impairment indicators and/or goodwill. In particular, the main CGUs were represented by:

- the businesses for regulated activities for the transportation, regasification and storage of natural gas by the companies Snam Rete Gas and ITG, GNL and Stogit;
- the CNG businesses composed of refuelling stations and compressor, of the companies Snam 4 Mobility and Cubogas;
- the biogas/biomethane businesses by the companies IES Biogas, and by the newly acquired company Renerwaste;
- the energy efficiency business, by the company TEP Energy Solutions and by the newly acquired company TEA Servizi.

With reference to the CNG business represented the refuelling stations, the recoverable value of the Snam 4 Mobility CGU was calculated on the basis of the Discounted Cash Flow (DCF) Method. Taking into consideration the start up stage of the business, the cash flows were calculated taking into consideration a longer time horizon compared with the forecast data of the 2020-2023 Plan approved by the Board, in order to be able to consider all the effects that could have a significant impact on cash flows. The Weighted Average Cost of Capital - WAAC method was used to discount cash flows.
With reference to other CNG activities (compressors), the recoverable value of the CGU Cubogas was determined based on the Discounted Cash Flow (DCF) Method, using the 2020-2023 Plan approved by the Board. The Weighted Average Cost of Capital - WAAC method was used to discount cash flows.
With reference to the biogas/biomethane business, the recoverable value of the CGU IES Biogas was determined on the basis of the Discounted Cash Flow (DCF) Method, using the 2020-2023 Plan approved by the Board. The Weighted Average Cost of Capital - WAAC method was used to discount cash flows.
With reference to the energy efficiency business, the recoverable value of the CGU TEP Energy Solutions was calculated on the basis of the Discounted Cash Flow (DCF) Method. Because of the nature of the business, significantly affected by the physical benefits related to the energy reclassification of buildings, the cash flows were calculated over a longer time horizon than the Plan approved by the Board, equal to the period in which these benefits are expected to remain in force. The Weighted Average Cost of Capital - WAAC method was used to discount cash flows.
For the newly acquired companies operating in the biogas/biomethane and energy efficiency business, the recoverable value allocated to the CGUs was assumed to be equal to the purchase prices of the companies also taking into account the timing of the acquisition transactions.
With reference to the Transportation (Snam Rete Gas), Regasification (GNL) and Storage (Stogit) CGUs, the recoverable value was defined corresponding to estimated value of the Italian Regulatory Authority for Energy, Networks and the Environment (ARERA) net of the flat-fee components[20], of the Employee Severance Pay (TFR) and contributions received.
With reference to the ITG CGU, the recoverable value allocated to the CGHU was calculated using the Discounted Cash Flow (DCF) Method, using the 2020-2023 Plan approved by the Board. The Weighted Average Cost of Capital - WAAC method was used to discount cash flows.
For all CGUs, the recoverable value as represented above was higher than the net book value of the CGUs included in the goodwill.
As set out in IAS 36, all the CGUs subject to impairment testing were subjected to a sensitivity analysis of the recoverable value, in the worst case scenario formulated which includes a 0.5% increase in the discount rate applied to cash flows. This stress test did not highlight any loss in value of the CGUs.

19 Investments by business segment are shown in the "Business segment operating performance" section of the Directors' Report.

20 The RAB is the reference basis for the determination of the service tariffs and, therefore, of the cash flows generated by the activities. The value of the RAB is defined through the historical cost method revalued as regards the fixed assets, and on a flat rate basis for the working capital, the employee severance indemnity and, with reference to the storage sector, the site dismantling and restoration fund.

Intangible assets by business segment

Intangible assets by business segment break down as follows:

(millions of €)	31.12.2018	31.12.2019
Historical cost	**1,676**	**1,825**
Transportation	721	**809**
Storage	835	**844**
Regasification	6	**6**
Corporate and other activities	114	**166**
Provision for amortisation, depreciation and impairment losses	**(769)**	**(835)**
Transportation	(544)	**(594)**
Storage	(159)	**(166)**
Regasification	(4)	**(4)**
Corporate and other activities	(62)	**(71)**
Net balance	**907**	**990**
Transportation	177	**215**
Storage	676	**678**
Regasification	2	**2**
Corporate and other activities	52	**95**

15) INVESTMENTS VALUED USING THE EQUITY METHOD

Investments valued using the equity method, amounting to €1,787 million (€1,710 million at 31 December 2018) break down as follows:

	Equity investments in		
(millions of €)	**joint ventures**	**associates**	**Total**
Initial value at 01.01.2018	**1,164**	**383**	**1,547**
Acquisitions and subscriptions	5	160	165
Capital gains from measurement using the equity method	117	48	165
(Capital losses) from measurement using the equity method		(8)	(8)
Exchange rate conversion differences		(1)	(1)
Sales and repayments	(16)		(16)
Decrease owing to dividends	(114)	(35)	(149)
Other changes	(57)	64	7
Final value at 31.12.2018	**1,099**	**611**	**1,710**
Initial value at 01.01.2019	**1,099**	**611**	**1,710**
Acquisitions and subscriptions		**23**	**23**
Capital gains from measurement using the equity method	**128**	**97**	**225**
(Capital losses) from measurement using the equity method		**(7)**	**(7)**
Exchange rate conversion differences		**6**	**6**
Sales and repayments	**(9)**	**(22)**	**(31)**
Decrease owing to dividends	**(98)**	**(34)**	**(132)**
Other changes	**7**	**(14)**	**(7)**
Final value at 31.12.2019	**1,127**	**660**	**1,787**

Acquisitions and subscriptions (€23 million) relate to TAP's capital increase following the shareholder loan requests received during the course of the year.
Capital gains from valuations using the equity method (€225 million) refer mainly to the share for the results of the jointly controlled companies TAG (€74 million), Terēga (€44 million) and AS Gasinfrastruktur Beteiligung GmbH (€10 million) and associate companies Italgas (€56 million) and Senfluga (€33 million). Capital losses from valuations using the equity method (€7 million) refer to the share of the results of the associate company TAP.
Disposals and redemptions (€31 million) refer to the reduction in the book value of Senfluga (€22 million) following the repayment of the share capital and AS Gasinfrastruktur Beteiligung (€9 million) following the distribution of part of the share premium reserve.
The decrease in dividends (€132 million) refers to the jointly controlled companies TAG (€63 million) and Terēga (€35 million) and the associate companies Italgas (€26 million) and Interconnector (UK) (€8 million).
Other changes (-€7 million) mainly refer to the change in fair value of the hedging derivatives of associate companies (-€23 million) partly offset by the conversion to equity in February 2019 of the remaining share of the Shareholders' Loan to TAP (+€9 million).
For investments, except for what is stated with reference to the investment in TAP[21], there were no real guarantees.
At 31 December 2019 the Group conducted impairment testing for each investment in associate and jointly controlled companies; in particular, for the Italgas CGU, the recoverable value was determined on the basis of the stock market capitalization of the homonymous stock on 31 December 2019, expression of the market values on that date. For the remaining CGUs, the recoverable amount was determined through the Dividend Discount Model (DDM) Method, based on the most recent plans of the respective companies. For the discounting of cash flows, the cost of equity was used (Cost of Equity - Ke). No impairments were revealed by these tests.
As set out in IAS 36, all investments subject to impairment testing were subjected to a sensitivity analysis of the recoverable value, in the worst case scenario formulated which includes a 0.5% increase in the discount rate applied to cash flows. This stress test did not highlight any loss in value of the investments.
Consolidated companies, joint ventures, associates and other significant equity investments are indicated separately in the appendix "Significant shareholdings, associates and equity investments of Snam S.p.A. at 31 December 2019", which is an integral part of these Notes.

Other information on equity investments

In accordance with the provisions of IFRS 12 - "Disclosure of interests in other entities", the economic and financial data for joint ventures and associates for the financial years ended 31 December 2018 and 31 December 2019 are provided below.

21 For more information, see Note 25, "Guarantees, Commitments and Risks – Commitments, guarantees and pledges - TAP".

Investments in joint ventures

The economic-financial data relating to each investment in joint ventures deemed significant, refers to values in the financial statements prepared on the basis of IFRS for investee companies[22] are listed below:

	31.12.2018		
(millions of €)	**Terēga Holding S.A.S. (*)**	**Trans Austria Gasleitung GmbH**	**AS Gasinfrastruktur Beteiligung GmbH**
Current assets	146	57	2
- *of which cash and cash equivalents*	*34*	*20*	*2*
Non-current assets	2,891	1,116	582
Total assets	**3,037**	**1,173**	**584**
Current liabilities	(146)	(105)	(3)
- *of which current financial liabilities*	*(81)*	*(35)*	*(3)*
Non-current liabilities	(1,685)	(497)	(283)
- *of which non-current financial liabilities*	*(1,423)*	*(353)*	*(283)*
Total liabilities	**(1,831)**	**(602)**	**(286)**
Shareholders´ equity	**1,165**	**571**	**298**
Equity investment held by the group % (**)	40.50%	89.22%	40.00%
Share attributable to the Group	472	509	119
Book value of the equity investment	**472**	**509**	**124**
Revenue	461	308	
Operating costs	(179)	(124)	
Amortisation, depreciation and impairment losses	(132)	(56)	
EBIT	**150**	**128**	
Financial income	1		2
Financial expense	(37)	(14)	(7)
Income (expense) from equity investments			28
Income tax	(31)	(32)	
Net profit	**83**	**82**	**23**
Other components of comprehensive income			
Total comprehensive income	**83**	**82**	**23**

(*) The data for 2018 were restated consistent with the definitive values of the financial statements approved by the company at 31.12.2018.
(**) The investment in Trans Austria Gasleitung GmbH is measured on the basis of the percentage of economic rights held.

22 Unless otherwise indicated, the financial statement figures for joint ventures, reported in full, have been updated to include adjustments made by the Parent Company pursuant to the equity-accounting method. The aforementioned amounts relate to the preliminary and/or approved reporting packages.

	31.12.2019		
(millions of €)	**Terēga Holding S.A.S.**	**Trans Austria Gasleitung GmbH**	**AS Gasinfrastruktur Beteiligung GmbH**
Current assets	133	46	2
- *of which cash and cash equivalents*	*40*	*5*	*2*
Non-current assets	2,930	1,104	605
Total assets	3,063	1,150	607
Current liabilities	(174)	(92)	(3)
- *of which current financial liabilities*	*(74)*	*(12)*	*(3)*
Non-current liabilities	(1,700)	(475)	(292)
- *of which non-current financial liabilities*	*(1,425)*	*(337)*	*(244)*
Total liabilities	(1,874)	(567)	(295)
Shareholders´ equity	1,189	583	312
Equity investment held by the group % (*)	40.50%	89.22%	40.00%
Share attributable to the Group	482	520	125
Book value of the equity investment	482	520	125
Revenue	502	312	
Operating costs	(208)	(127)	
Amortisation, depreciation and impairment losses	(103)	(61)	
EBIT	191	124	
Financial income			2
Financial expense	(52)	(11)	(7)
Income (expense) from equity investments			23
Income tax	(45)	(30)	(2)
Net profit	94	83	16
Other components of comprehensive income			
Total comprehensive income	94	83	16

(*) The investment in Trans Austria Gasleitung GmbH is measured on the basis of the percentage of economic rights held.

Information on Investments in joint ventures

Terēga Holding S.A.S.

Terēga Holding S.A.S. is a company operating under French law which, through Terēga S.A.S., wholly-owned by Terēga Holding S.A.S.) controls 100% of Terēga S.A.

Terēga S.A. (Transport et Infrastructures Gaz France) operates in the transportation and storage of natural gas in south-west France. Natural gas transportation and storage activities in France are subject to regulation.

At 31 December 2019 Terēga Holding S.A.S. was an investee of Snam S.p.A. (40.5%), Singapore sovereign wealth fund GIC (31.5%), EDF (18%, through a fund dedicated to liabilities arising from the disposal of nuclear assets) and Crédit Agricole Assurances (10%, through Prévoyance Dialogue du Crédit Agricole).

Terēga Holding S.A.S.'s consolidated financial statements include Terēga Holding S.A.S., Terēga S.A.S and Terēga S.A.

The corporate governance rules stipulate that decisions on significant activities must be taken with the unanimous consent of shareholders Snam and GIC.

Trans Austria Gasleitung GmbH (TAG)

Trans Austria Gasleitung GmbH (TAG) is a company operating under Austrian law that is active in the natural gas transportation segment. It owns the gas pipeline that links the Slovakian-Austrian border to the Tarvisio entry point.

Natural gas transportation in Austria is a regulated activity.

As at 31 December 2019, Snam S.p.A. holds 84.47% of the share capital, entitling it to 89.22% of the economic rights. The remainder of the share capital is held by Gas Connect Austria GmbH (GCA).

The contractual agreements drawn up between Snam, TAG and (GCA) also stipulate that if TAG is not capable of self-financing, the other companies must finance it according to the equity investment held by each shareholder.

The corporate governance rules stipulate that decisions on significant activities must be taken with the unanimous consent of shareholders Snam and GCA.

AS Gasinfrastruktur Beteiligung GmbH

AS Gasinfrastruktur Beteiligung GmbH is an Austrian company jointly controlled by Snam S.p.A. and the Allianz group, with holdings of 40% and 60% respectively.

The company holds 100% of the Austrian company AS Gasinfrastruktur GmbH, which in turn holds 49% of the share capital of Gas Connect Austria GmbH, which is controlled by OMV AG.

The corporate governance rules of AS Gasinfrastruktur Beteiligung GmbH stipulate that decisions on significant activities must be taken with the unanimous consent of shareholders Snam and Allianz.

Significant restrictions

Pursuant to the provisions of IFRS 12, the major significant restrictions on investee companies' ability to transfer funds to Snam in the form of dividends, loan repayments or advances appear below.

Terēga S.A.S.

The payment to shareholders of interest on the nominal amount of the €670 million convertible bond (of which Snam has subscribed €272 million) may be deferred at the discretion of the issuer Terēga S.A.S.

Investments in associates

The economic-financial data relating to investments in associate companies deemed significant, refers to the values in the financial statements prepared in accordance with the IFRS of investee companies[23], and are reported below.

	31.12.2018			
(millions of €)	**Trans Adriatic Pipeline AG (TAP)**	**Italgas S.p.A.**	**Senfluga Energy Infrastructure Holding S.A. (*)**	**Interconnector UK Ltd**
Current assets	108	748	347	37
Non-current assets	4,050	6,011	815	668
Total assets	**4,158**	**6,759**	**1,162**	**705**
Current liabilities	(257)	(899)	(176)	(108)
Non-current liabilities	(2,619)	(4,531)	(519)	(117)
Total liabilities	**(2,876)**	**(5,430)**	**(695)**	**(225)**
Shareholders' equity	**1,282**	**1,329**	**467**	**480**
Equity interest held by the Group (%)	20%	13.50%	60%	23.68%
Share attributable to the Group	256	179	117	114
Book value of the equity investment	**258**	**180**	**117**	**55**
Revenue		1,641		168
EBIT	**(29)**	**453**	**(6)**	**47**
Net profit	**(18)**	**314**	**(6)**	**37**
Other components of comprehensive income		(3)		
Total comprehensive income	**(18)**	**311**	**(6)**	**37**

(*) The values reflect the recognition, as provisional accounting, of the assets and liabilities assumed by Senfluga when it acquired the controlling interest in DESFA at its fair value. Shareholders' equity includes amounts pertaining to minorities of 272 million euro.,

23 The financial statement figures for associates, reported in full, have been updated to include adjustments made by the Parent Company pursuant to the equity-accounting method. The aforementioned amounts relate to the preliminary and/or approved reporting packages.

(millions of €)	31.12.2019			
	Trans Adriatic Pipeline AG (TAP)	Italgas S.p.A.	Senfluga Energy Infrastructure Holding S.A. (*)	Interconnector UK Ltd
Current assets	79	985	220	32
Non-current assets	4,100	7,247	839	426
Total assets	4,179	8,232	1,059	458
Current liabilities	(210)	(1,319)	(105)	(29)
Non-current liabilities	(3,103)	(5,118)	(466)	(173)
Total liabilities	(3,313)	(6,437)	(571)	(202)
Shareholders' equity	866	1,795	488	256
Equity interest held by the Group (%)	20%	13.5%	54%(**)	23.68%
Share attributable to the Group	264	209	124	61
Book value of the equity investment	264	209	125	61
Revenue	2	1,893	257	88
EBIT	(39)	516	141	39
Net profit	(40)	424	88	33
Other components of comprehensive income	(93)	(6)	(5)	28
Total comprehensive income	(133)	418	83	61

(*) The shareholders' equity includes the value pertaining to minority shareholders, equal to €258 million.
(**) The equity investment held by the Group reflects the reclassification to Assets held for sale equal to 6% (€10 million).

Information on investments in associates

Trans Adriatic Pipeline A.G. (TAP)

Trans Adriatic Pipeline A.G. (TAP) is a Swiss company formed to design, develop and build a new gas pipeline, currently under construction, which will extend from the Greek-Turkish border to Italy (at the new entry point in San Foca-Melendugno), crossing Greece and Albania.
As at 31 December 2019, TAP A.G. was an investee of Snam S.p.A. (20%), Socar (20% through AzTAP GmbH), BP (20% through BP Gas Marketing Ltd), Fluxys (19% through Fluxys Europe B.V.), Enagas (16% through Enagás Internacional S.L.U.) and Axpo (5% through Axpo Trading AG).
In December 2019 TAP concluded a project financing agreement for the construction of the pipeline.
Under current corporate governance rules, none of TAP's shareholders is able to exercise control over the company, including in a joint capacity.

Italgas S.p.A.

Italgas S.p.A. is an Italian company that controls 100% of Italgas Reti S.p.A., Seaside S.r.l. and Italgas Acqua., companies operating in the natural gas distribution sector in Italy, energy efficiency and the management of the water service in five municipalities in Campania.
As at 31 December 2019, following the spin-off of the natural gas distribution business from Snam S.p.A. which took place in 2016, Italgas S.p.A., was a investee of Snam (13.5%), C.D.P. Reti S.r.l. (26.05%), while the remainder is owned by third party shareholders.
On 7 November 2016, the effective date of aforementioned separation, which covered all the shares each company held in Italgas S.p.A., the shareholder agreement signed by Snam S.p.A., CDP Reti S.p.A. and CDP Gas S.r.l., on 20 October 2016 entered into effect. The shareholder agreement establishes a block voting shareholder's agreement, with Snam having the right of early withdrawal if, in the event of Snam opposing the vote of the syndicated shares on reserved

subjects of an extraordinary nature, Snam does not sell its equity investment in Italgas within the next 12 months (accelerated exit). Transfers of Snam's equity investment in Italgas S.p.A. (including in the event of an Accelerated Exit) are subject not only to advance approval by CDP Reti, but also to the subrogation of a third party. In addition, Snam may not increase its equity investment. The agreement has a three-year term that is renewable barring notice of termination; in the event that Snam does not renew, CDP Reti shall have an option to purchase at fair market value Snam's equity investment in Italgas.

Senfluga Energy Infrastructure Holding

Senfluga Energy Infrastructure Holding is a company through which the European consortium composed of Snam (60%)[24], Enagás (20%) and Fluxys (20%) owns a 66% stake of DESFA, the national operator in the natural gas infrastructure sector. DESFA owns and manages a regulated system for a high pressure transportation network covering around 1,500 km, as well as a regasification terminal at Revithoussa. Greece, an important crossroads for the diversification of procurement and the opening of new natural gas routes in Europe, has further development potential as a south-east European hub.
Under current corporate governance rules, none of Senfluga's shareholders is able to exercise control over the company, including in a joint capacity.

Interconnector UK Ltd

Interconnector UK Ltd is a company under British law that owns the two-way pipeline that joins the United Kingdom to Belgium and the rest of Europe.
At 31 December 2019 Interconnector UK Ltd was an investee company of Snam International B.V. (23,68%) and Fluxys UK Ltd (76.32%).
The company directly holds 48% of the company under Dutch law Interconnector Zeebrugge Terminal S.C./C.V. Scrl and 1% indirectly through Interconnector Leasing company Ltd.

16) OTHER INVESTMENTS

Other investments of €41 million (€40 million at 31 December 2018) mainly involve the minority interest of 7.3% held by Snam S.p.A. in the share capital of Terminale GNL Adriatico S.r.l. (Adriatic LNG) and breaks down as follows:

(millions of €)	
Value at 31.12.2018	**40**
Acquisitions and subscriptions	**1**
Income from valuation to FVTOCI	**4**
Sales and repayments	**(5)**
Other changes	**1**
Value at 31.12.2019	**41**

The profit from the measurement of the Fair Value Through Other Comprehensive Income (FVTOCI) of €4 million refers to the change in fair value of the investment at 31 December 2019.

24 Following the sale of the 6% stake that took place on 13 January 2020, the share held by Snam was 54%. For more information, refer to Note 17 "Assets held for sale".

17) ASSETS HELD FOR SALE

Assets held for sale (€10 million) relate to a 6% share in the associate company Senfluga, reclassified following the agreements signed by the shareholders of Senfluga for the sale of a 10% stake in it, proportional to the stake held by each shareholder. In conformity with the provisions of IFRS 5 "Non-current assets Held for Sale and Discontinued Operations", the above-mentioned stake was recorded under assets held for sale and valued at the lower of the book value and the fair value, excluding any sales costs. The completion of the transaction, subject to the approval of the Greek regulator, took place on 13 January 2020, following a payment of €16 million (€10 million as Snam's share), pegged at the values of the transaction concluded by Snam in December 2018. Following the above-mentioned sale, the percentage of Snam's equity investment in the capital of Senfluga is 54%.

18) SHORT-TERM FINANCIAL LIABILITIES, LONG-TERM FINANCIAL LIABILITIES AND SHORT-TERM PORTIONS OF LONG-TERM FINANCIAL LIABILITIES

Short-term financial liabilities, amounting to €2,456 million (€1,976 million at 31 December 2018), and *long-term financial liabilities*, including short-term portions of long-term liabilities totalling €12,318 million (€11,444 million at 31 December 2018), break down as follows:

	31.12.2018					31.12.2019				
		Long-term financial liabilities					Long-term financial liabilities			
(millions of €)	Short-term financial liabilities	Short-term portion	Long-term portion maturing within 5 years	Long-term portion maturing in more than 5 years	Total long-term portion	Short-term financial liabilities	Short-term portion	Long-term portion maturing within 5 years	Long-term portion maturing in more than 5 years	Total long-term portion
Bonds		913	4,408	3,125	7,533		1,439	3,800	3,809	7,609
Bank loans	1,751	744	1,175	1,079	2,254	455	230	1,798	1,221	3,019
Euro Commercial Paper - ECP	225					2,001				
Lease liabilities							6	11	4	15
	1,976	1,657	5,583	4,204	9,787	2,456	1,675	5,609	5,034	10,643