


STATISTICS ON MINING AND QUARRYING EXTRACTION ACTIVITIES | YEAR 2018

Extraction of mining mineral resources decreased. The increase in mineral water withdrawals continues

 In 2018, in Italy **mining and quarrying sites** amounted to 4,518. Among them, **2,169** were into production sites (-3% compared to 2017). National extraction of non-energy mineral resources, including natural mineral waters withdrawals, amounted to **183.3 million tons** (83.2% was from quarrying), with a 1.2% decrease over the previous year.

A percentage equal to **48.5%** of the national amount of mineral resources extracted in 2018 from quarrying, came from the **North of Italy**, consisting of **83.1 million tons** (+4.9% over the previous year). **South of Italy and Islands** contribute with **55.9 million tons** (-13.6% less than 2017).

-0.5%

Decrease of mineral resources extractions from quarrying with respect to 2017

152.4 million tons of mineral resources extracted from quarrying

-11.1%

Decrease of mineral resource extractions from mining

+1.7%

Increase of mineral natural waters withdrawals

16.8 million tons cubic meters of mineral waters extracted; 53.5% came from North of Italy

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Mining and quarrying extractions in Italy

In 2018, in Italy *active* and *not-active* mining and quarrying sites (excluding extractive sites of energy producing mineral resources and natural mineral waters) amounted to 4,518 (-4.4% compared to 2017). Mining sites were 120 and quarrying sites 4,398. Active extraction sites – that is where authorizations or licenses to the extraction right are in force – amounted to 3,674. Municipalities with at least one active extraction site were 1,575. Among active extraction sites, 2,094 were *into production sites*, namely sites from which quantities of mineral resources had actually been extracted (75 mines and 2,094 quarries).

In 2018, national extraction of mining and quarrying of mineral resources (excluded natural mineral water) amounted to 166.4 million tons (-1.4% over the previous year). More in detail, national extractions from quarrying consisting of 152.4 million ton, decreased of 0.5% compared to 2017, and extractions from mining decreased of 11.1%, reaching 14 million of tons. Figures confirm a decreasing trend of mining and quarrying extractions at a 3.7% yearly rate since 2013 (first year of the survey conduct).

Concerning Environmental Pressure Indicators, in 2018 *Extraction Intensity* (IE) calculated at a national level was equal almost to 552 tons per square km, decreasing of 1,4% with respect to 2017 value.

In 2018, the companies involved in extraction production activities were 1,760 in Italy: 1,724 were active in quarrying (mostly in Northern Italy) and 27 in mining (mostly in Sardegna, Piemonte and Toscana).

EXTRACTIONS IN ITALY, KEY FIGURES

Year 2018, absolute values and percent variations

	QUARRYING		MINING ^(a)	
	absolute values	% var 2017/2016	absolute values	% var 2017/2016
AUTHORIZED EXTRACTION SITES				
Active extraction sites	3.580	-5,8%	94	-5,1%
Active extraction sites into production	2.094	-3,2%	75	+2,7%
EXTRACTION ACTIVITIES				
Mineral resources extractions (million tons)	152,4	-0,5%	14,0	-11,1%
Authorized companies into production	1.724	-3,0%	47	+9,3%
NATURAL MINERAL WATERS				
Mineral waters extractions (million cubic meters)			16,8	+1,7%

(a) Natural mineral waters are excluded

(b) Provisional data

Quarrying active sites reduced

In 2018, authorized sites amounted to 4,518 (-4.4% compared to 2017), including 4,398 quarries and 120 mines. Among authorized sites, 3,674 were active (-5.7% over the previous year), including 3,580 quarries and 94 mines.

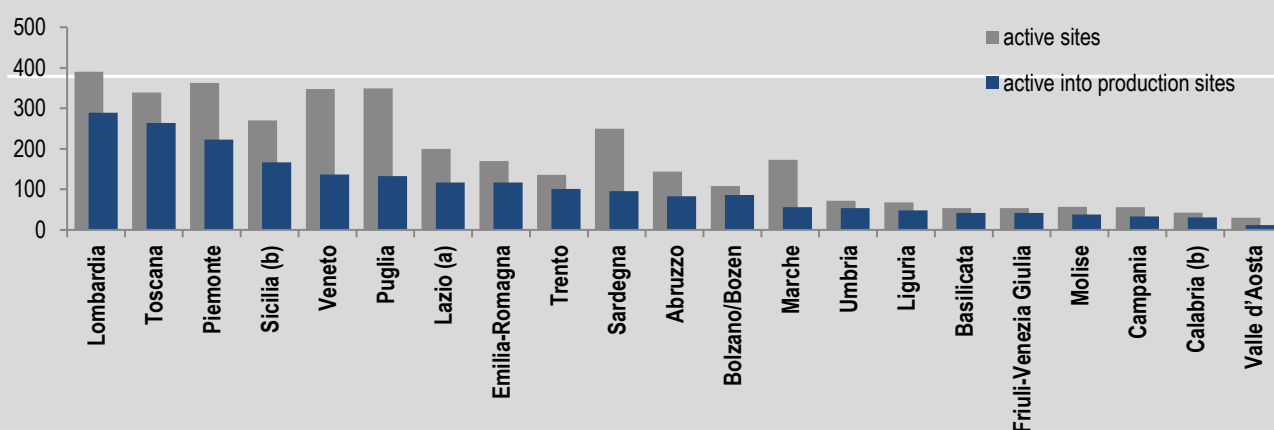
Active quarrying sites decreased by -5.8% over 2017 and, in particular, quarries into production in the reference year (-3.2%). That reduction was widespread in the territory, having affected all Italian areas (except for the South of Italy). Productive quarrying sites were mostly located in Lombardia (289), Toscana (264), Piemonte (223).

On the other side, also active mining sites decreased by -5.1% over 2017. Into production mines slightly increased to 75 (+2.7% with respect to 2017), mostly located in Sardegna (20), Piemonte (15) and Toscana (13).

Not active sites were 844 (+3% over the previous year), that are sites for which authorizations or licences regarding their regular activities have ceased in the year observed. They are 818 quarries and 26 mines and includes: i) sites which has no authorization or licence still valid, due to expiration (cessation); ii) authorized sites suspended due to a new administrative measure.

FIGURE 1. ACTIVE EXTRACTION SITES AND ACTIVE SITES INTO PRODUCTION, BY REGION

Year 2018, absolute values



(a) 2018 data not available, 2017 data are reported

(b) Provisional data

Sand and gravel extractions increased in many areas

In 2018, national extractions of mineral resources from quarrying amounted to 152.4 million tons (-0.5% over the previous year). More in detail, the decrease was due to reduced extractions of many types of mineral resources, with the exception of “sand and gravel” (+8,6% with respect to 2017), “granite, other intrusive rocks, schists and gneiss” (+7%) e “porphyry, basalt, tufa and other volcanic rocks” (+3,7%).

Istat survey on mining and quarrying extraction activities collecta data on about 100 lithotypes of mineral resources (according to the International Mineralogical Association classification IMA). Mineral resources are grouped into ten aggregates, for the purpose of the analysis, using minerals classification criteria.

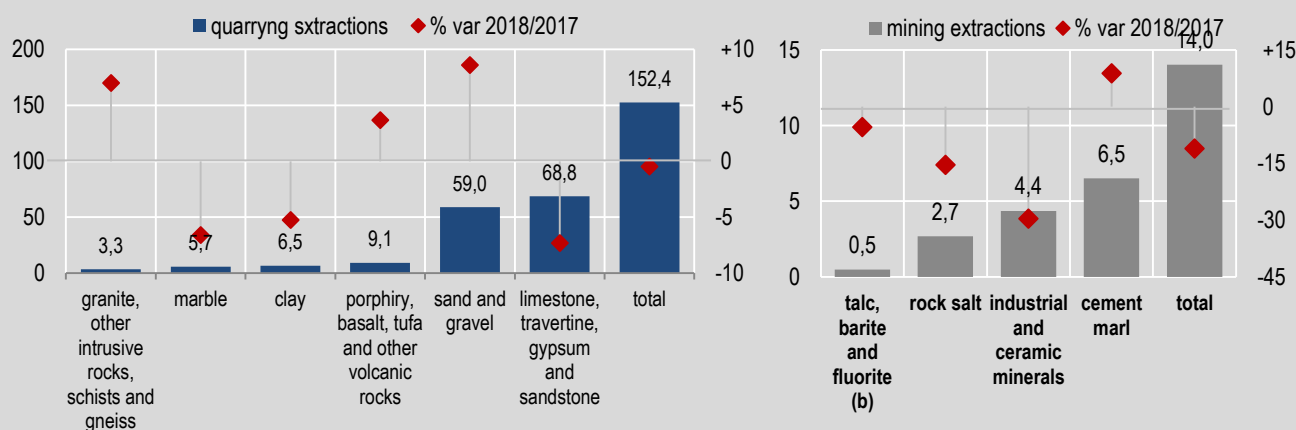
In 2018, “limestone, travertine, gypsum and sandstone” is confirmed as the most relevant aggregate in physical terms, with 68.8 million tons extracted (-7.3% over 2017) accounting for 45.1% of national extractions from quarries. The second aggregate was “sand and gravel”, with 59 million tons, followed by “porphyry, basalt, tufa and other volcanic rocks” (9.1 million tons), “clay” (6.5), “marble” (5.7), and “granite, other intrusive rocks, schists and gneiss” (3.1).

Figures show all aggregates registered a decrease in extracted quantities with respect to 2017, except for “sand and gravel” (+8,6%), “granite, other intrusive rocks, schists and gneiss” (+7%) e “porphyry, basalt, tufa and other volcanic rocks” (+3,7%).

In 2018, also mining extractions decreased by -11.1% with respect to 2017, reaching 14 million of tons. In detail, “cement marl” and “ceramic and industrial minerals” were the most relevant regarding quantities, with respectively 6.5 and 4.4 million tons extracted (showing the first a +8.8% increase and the second a -29.6% decrease over 2017). Finally, “rock salt” (2.7 million tons) and “talc, barite and fluorite” (0.5 million tons) followed.

FIGURE 2. MINERAL RESOURCES EXTRACTIONS FROM QUARRYING AND MINING (a) BY AGGREGATE.

Year 2018, absolute values in million tons and percent variations over 2017 (right scale axis)



(a) Gold minerals extractions are not included
 (b) In 2018 there are not registered barit extractions

Lombardia first region concerning extractions and quarries into production

A regional analysis showed that 49.1% of the national amount of quarrying extractions came from the North of Italy, with almost 75 million tons. Lombardia is the first region with 24.9 million tons extracted (+9.7% compared to 2017), followed by Piemonte (14.5 million tons), Toscana (13.7) and Puglia (12.6).

Mineral resources of “*limestone, travertine, gypsum, sandstone*” aggregate were extracted mainly in Puglia, with 11.6 million tons (representing 16.9% of national extraction of this materials), Lombardia (7.7 million tons), Toscana (6.7) and Sicilia (5.4).

Lombardia was the region with the highest extractions of “*sand and gravel*” with 15.8 million tons (+19.5% over 2017), followed by Piemonte (10 million tons), Emilia Romagna (8.6) and Veneto (8.4).

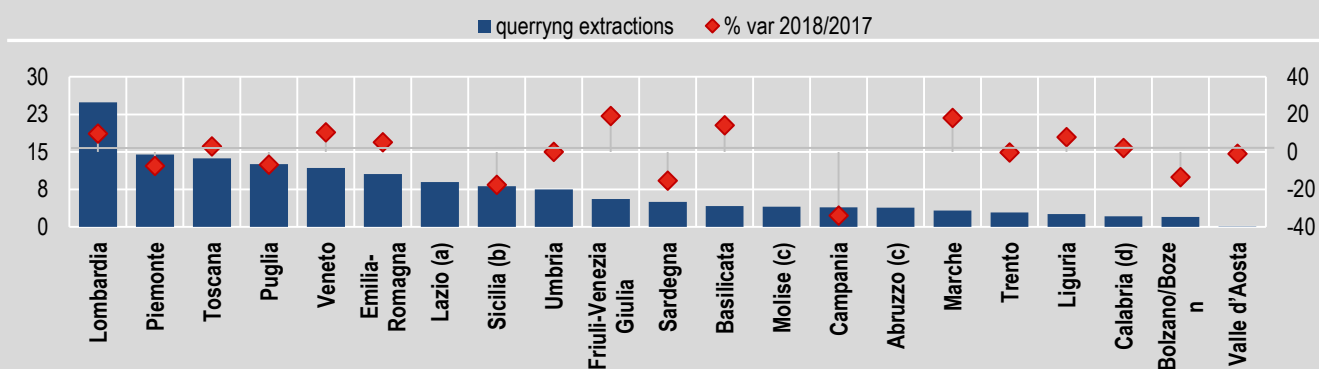
The major quantities of “*porphyry, basalt, tufa and other volcanic rocks*” were extracted in Trento equal to 1.9 million tons (21% of the national quantities extracted of these materials), Sicilia (1.6 million tons) and Umbria (1.4). Emilia-Romagna and Umbria showed the highest level of extractions of “*clay*”, with 1 million tons and 762 thousands of tons, respectively.

Toscana accounted for 62.4% of national extractions of “*marble*”, with 3.5 million tons, followed by Lombardia (913 thousands of tons) and Sicilia (548).

“*Granite, other intrusive rocks, schists and gneiss*” aggregate includes some ornamental stones. Most of extractions occurred in Sardegna and Piemonte (1.1 million tons and 931 thousands of tons, respectively).

FIGURE 3. MINERAL RESOURCES EXTRACTIONS FROM QUARRYING, BY REGION

Year 2018, absolute values in million tons and percent variations over 2017 (right scale axis)



(a) 2018 data not available, 2017 data reported

(b) Provisional data. 2018 data not available for district of Palermo, 2017 data are reported

(c) Percentage variations over 2017 are not available, because 2017 data provisional

(d) Provisional data

Mining extractions decreased

Extractions of mineral resources from mining (excluded natural mineral waters) decreased to 14 million tons (-11.1% over 2017), confirming, at the national level, the decreasing trend measured in last years.

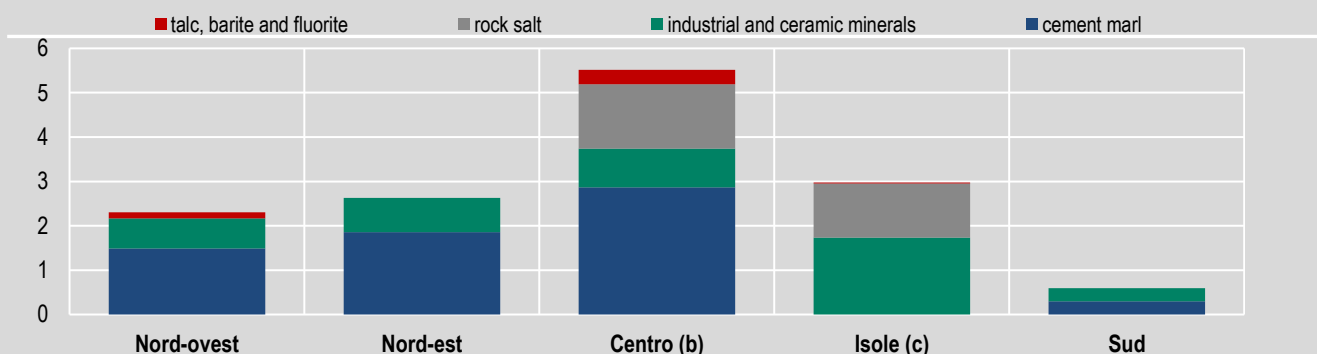
The North of Italy showed increased extractions (+17.2% compared to 2017), in particular North-western area (+22.6%). Extractions decreased in the South (-12.9% over 2017) mainly in Abruzzo and in the Centre of Italy (-3.6%) for the most in Toscana.

In 2018, the highest extractions in physical units registered in Toscana (2.9 million tons), Umbria (1.9) and Sardegna (1.8). These three regions together count for 47.1% of the national mining extractions.

Mining extraction quantities increased for “*cement marl*” reaching 6.5 million tons (+8.8% over 2017), mainly from the Centre of Italy (Toscana and Umbria). Extractions decreased for all the other aggregates such as “*ceramic and industrial minerals*” with 4.4 million tons extracted (-29.6% over 2017), mostly in Sardegna; “*rock salt*” with 2.7 million tons (-15.4%) exclusively extract in Toscana, Sicilia and Sardegna; finally “*talca, barite and fluorite*” with 483 thousands of tons (-5.4% over 2017).

FIGURE 4. MINERAL RESOURCES EXTRACTIONS^(a) FROM MINING, BY AREAS

Year 2018, absolute values in million tons



(a) Gold minerals extractions are not included

(b) 2018 data not available for Lazio, 2017 data are reported

(c) Provisional data for Sicily. 2018 data not available for the Mining District of Palermo, 2017 data are reported

Environmental pressure indicators about extraction activities

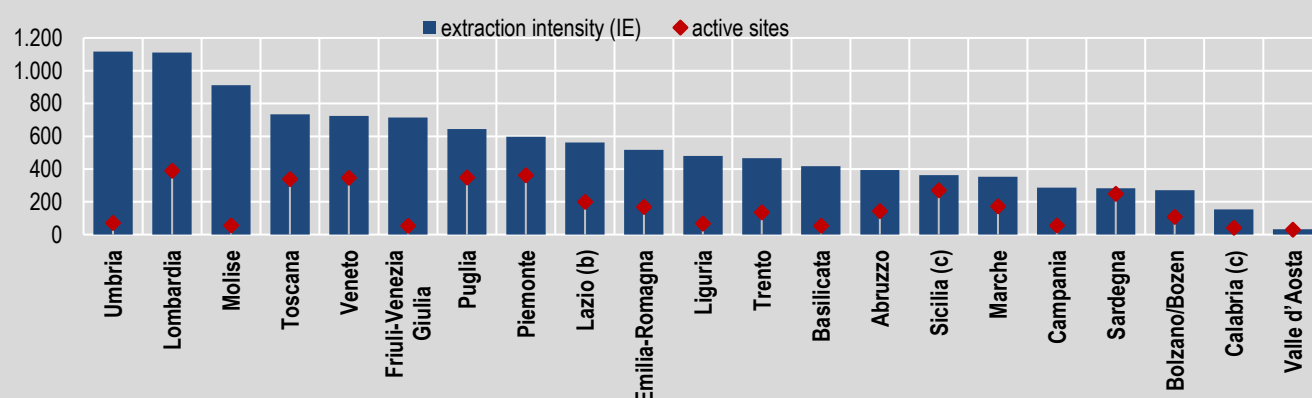
In environmental economics, “pressures” represent phenomena linked to anthropic activities that alter the state of environmental components. Environmental pressures indicators specifically linked to mining quarrying activities were calculated at a municipality scale for year 2018, according to a conceptual framework named DPSIR Model (Driving forces, Pressures, State, Impact, Responses), that ensure methodologic harmonization, scientific requirements, reproducibility and reliability. Developed in the '80s by the EEA (European Environmental Agency) and OCSE, DPSIR conceptual model is one of the frameworks internationally used to describe interactions between economy and natural environment and it is characterized by causal relationships.

In 2018, 1,575 Italian municipalities hosted 3,674 active mining and quarrying extraction sites. The “*Active Extraction Sites Density*” (DSE) indicator (calculated as the ratio between the number of active sites by municipality and the respective municipality areas) revealed that 35.4% of the Italian municipalities with active sites recorded medium-high pressure in their territories, exerted by the presence of more than 5 active extraction sites per 100 square km (in particular, 15.6% with more than 10 active sites).

In 2018, the “*Extraction intensity*” (IE) indicator (calculated as the ratio between quantities of mineral resources extracted by municipalities and the respective municipality areas) calculated at a national level, was equal almost to 552 tons per square km. Among 1,180 municipalities with at least one into production site, 27.3% recorded withdrawals up to 300 tons per square km, recording a low extraction intensity. A significant share of municipalities (39.9%, almost half located in the North) extracted between 1,000 and 10,000 tons per square km, whereas 11.1% extracted more than 10,000 tons of non-energy mineral resources per square km.

FIGURE 5. EXTRACTION INTENSITY INDICATOR (IE) AND NUMBER OF ACTIVE SITES, BY REGION

Year 2018, absolute values (tons per squared Km of regional surface and number of active sites)



(a) The Indicator could be under estimated for the regions that provided provisional data

(b) 2018 data not available, 2017 data are reported

(c) Provisional data

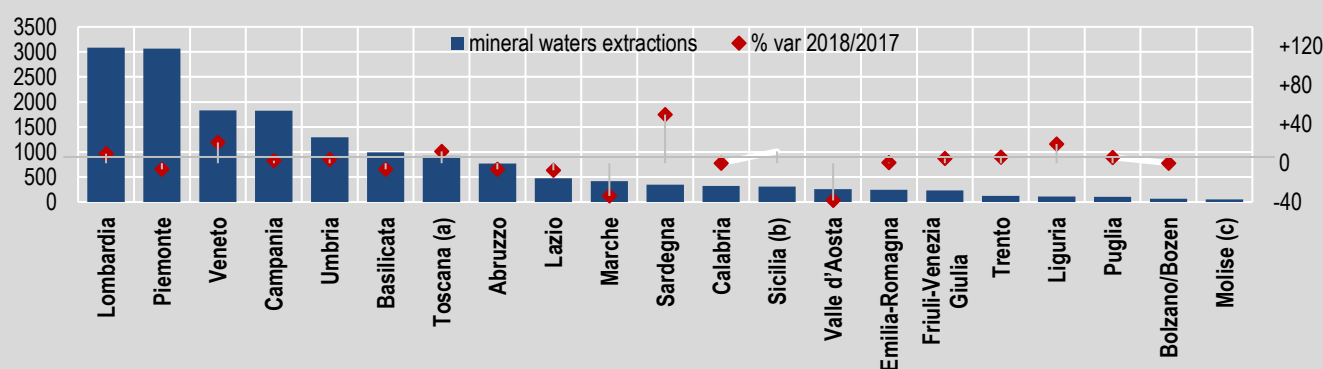
Mineral waters withdrawals increased in the South

According to current legislation (Regio Decreto 1443/1927), mineral waters are included among mining mineral resources. Since 2018, Istat has been collecting data on natural mineral waters withdrawals (volumes extracted for production purpose, time series available 2015-18). In 2018, at national level, natural mineral waters withdrawals increased, reaching 16.8 million cubic meters (+1.7% compared to 2017). The North of Italy (-0.2% over 2017) is the most relevant (in physical terms) geographical area with 9 million cubic meters (corresponding to 53.5% of national withdrawals). The highest quantities registered in Piemonte and Lombardia (about 3.1 million cubic meters), followed by Veneto and Campania (1.8). Withdrawals decreased either in the North East (-9.7%) and in the Centre (-3%), whereas they increased in the North West (+2.4) and in the South (+16.4%).

In 2018, natural mineral waters extraction sites were located in 159 municipalities, especially in the North (42.8%) and in the Centre of Italy (30.2%); 127 extraction companies were operating in this sites.

The “*Extraction Intensity*” (IE) indicator calculated at national concerning natural mineral waters, at national level accounted for 56 cubic meters of mineral waters per square km. The highest value was registered in the Northwestern area with 112 cubic meters per square km.

FIGURE 6. NATURAL MINERAL WATERS WITHDRAWALS FOR PRODUCTION PURPOSE, BY REGION
Year 2018, absolute values in million cubic meters and percent variations over 2017 (right scale axis)



(a) 2016 data are used to calculate percentage variation (source Ministry of Economy and Finance – Treasury Department (MEF-DT) Sourvey on "Concessioni - Patrimonio della PA" reference year 2016)
 (b) 2018 provisional data, consequently, percentage variation is not available
 (c) Percentage variations is not available because 2017 data provisional

Crude oil extractions are recovering

A complete framework of mining statistics is offered by joining Istat statistics on non energy mineral resources extractions with statistics on energy producing mineral resources regularly provided by the Italian Ministry of Economic Development (MISE, DGS-UNMIG Directorate). Ministry data refers to annual amount of extractions of energy producing minerals in Italy both onshore and offshore, by regions and marine areas.

On December 2018, 196 hydrocarbons extraction licenses issued by the Ministry were active (130 onshore and 66 offshore) and 760 extraction sites were into production. In 2018, the national amount of extractions accounted for 4.7 million tons of crude oil (+13.2% compared to 2017), 10.9 thousand tons of gasoline (+9%) and 5.5 billion standard cubic meters of natural gas (-1.8%). Southern Italy contributed the most both for crude oil (78.9% of the national production) and natural gas extractions (31.5%).

For more details, please refer to the Italian version of the Statistical Report (Tables of data and Methodological Note) published on July 2020 on the Istat web site www.istat.it

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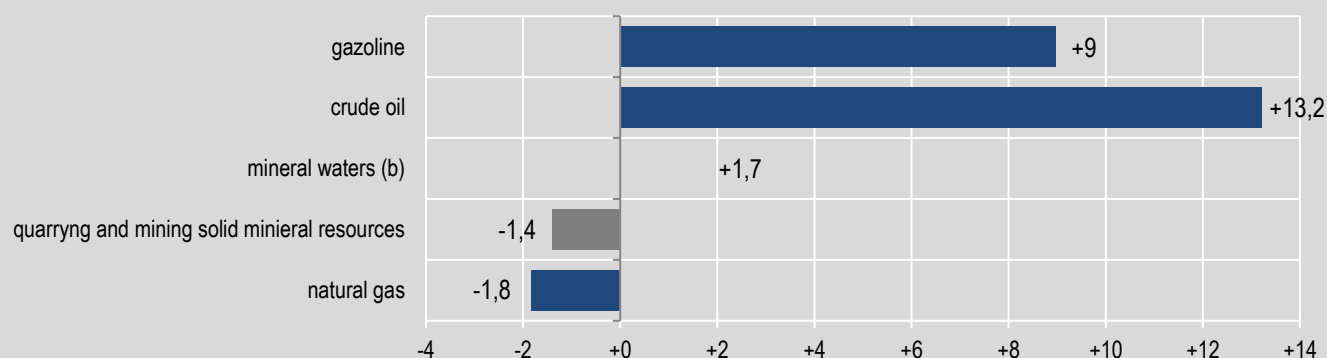
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FIGURE 7. ENERGY^(a) AND NON ENERGY PRODUCING MINERAL RESOURCES EXTRACTIONS, BY TYPE

Year 2018, percent variations with respect to 2017



(a) Concerning energy producing mineral resources extraction, onshore and offshore, Istat elaborations on data provided by the Ministry of Economic Development (MISE, DGS-UNMIG) - DGS-UNMIG database, reference year 2016

(b) Provisional data for Sicily

(c) 2018 data not available for Lazio, 2017 data are reported. 2018 data are provisional for Sicily and Calabria

