



DGRME - Annual Report 2015

Activity 2014

Ministry of Economic Development
Directorate-General for Mineral and Energy Resources

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Activity 2014

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Introduction

The European Union is searching for a higher security in energy supply, that, today, is jeopardized from both North and South. The vulnerability of the Italian energy system, that unlike the main European partners cannot count on a sufficient national production, and the need to reach the EU climate energy challenges set by European Union had 2 consequences: on one side, Italy sped up on energy saving and renewable energies development, reaching well in advance 2020 objectives; on the other side, Italy restarted the national production of hydrocarbons for limiting imports, promoting investments and employment, as well as for guaranteeing a worldwide greenhouse gases (GHGs) reduction, due to the decrease of hydrocarbons imports and transports.

In this direction, the action launched by the National Energy Strategy (SEN) in 2013 continued during 2014, particularly by the so called “Sblocca Italia” Decree, whose effects could be evaluated starting from 2015.

About the offshore operations safety, 2014 was a crucial year: both for onshore and offshore activities, a complete review of the safety management model was performed through several initiatives that will be described in detail in the present Report. For more than 60 years of activities, the hydrocarbons exploration and production sector represented, in Italy, a benchmark for standards safety and general performance. In order to maintain and improve such standards in a territory and in a sea so complex like the Italian ones, today it is necessary to consider also new and high-technical tools for monitoring and preventing scopes and disseminate them to all the interested people. During 2014, the bases were set and these activities started, both onshore and offshore, allowing Italy to test -first in the world- an integrated monitoring system for ground and underground parameters. Such system has purposes of preparedness and response and aims to set an offshore safety evaluation model, environmental as well. It was created with the Italian Navy and the Italian Corps of Harbour Masters and Coast Guard, jointly with the excellences Italian Research.

Therefore, the sector faces the hard challenge of the activities re-launch, after some years of research and development suspension, with an integrated control system strongly powered and able to guarantee the highest safety standards of the world, also in the future.

DIRECTOR GENERAL
Eng. Franco Terlizzese

DIRECTORATE-GENERAL FOR MINERAL AND ENERGY RESOURCES

Structure

The Prime Ministerial Decree no. 158 of December 5th, 2013 reorganized the structure of the Ministry of Economic Development in 15 Directorate-General offices. The tasks of each Division were then defined by Ministerial Decree of July 17th, 2014. In particular, the Directorate-General for Mineral and Natural Resources (DGRME) is now subdivided in 6 Divisions.

Divisions I and VI offices are located in Rome (via Molise, 2).

The Division II, III and IV are defined UNMIG Sections and they are distributed in the cities of Bologna, Rome and Naples. They represent, together with the Division V, the National Mining Office for Hydrocarbons and Geo-resources (UNMIG).

The offices of the Division V and the chemical and mineralogical Laboratories are located in Rome (via Antonio Bosio, 15).

For institutional activities of competence, DGRME avails itself of the Commission for Hydrocarbons and Mineral Resources (CIRM), whose functions will be better explained below in the text.

Up to December 31st, 2014 the structure of the DGRME was composed by 71 resources, whose 57 are employees of the Ministry, with various professional profiles (administrative, technical and legal) and the other 14 come from other companies, both public and private or university and research centres.

Functions

The DGRME carries out the following tasks, as defined by the [Prime Ministerial Decree no. 158 December 5th, of 2013](#) "Regulation of re-organization of the Ministry of Economic Development" and listed in the article 9:

- ❖ define priorities, guidelines and plans for national mining/energy development;
- ❖ functions and tasks of National Mining Office for Hydrocarbons and Geo-resources;
- ❖ relationships with European and International Organizations and with Administration of other States in sectors of competence;
- ❖ promote agreements with Public Administrations, Regions and local authorities in order to assure the coordination of strategic mining and geothermal activities all across the Country;
- ❖ plan, authorize, manage and control gas storage and hydrocarbon exploration/production activities onshore and offshore;
- ❖ develop agreements for the joint exploitations of energy resources in international waters;

- ❖ promote activities finalized to the development of energy resources in Countries considered strategic for the security of national energy supply;
- ❖ develop technologies for capture, transport and storage of carbon dioxide and storage activities authorizations;
- ❖ establish technical regulations for the safe management of hydrocarbons production/transport and gas storage plants;
- ❖ analysis and experimentation laboratories;
- ❖ office for expropriation for public interest;
- ❖ statistics, analyses and forecasts on mining and energy resources;
- ❖ guidelines, directives and relationship with ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development) for research in mining and energy resources sector.

Each Division of the DGRME has specific tasks, which were established by [Ministerial Decree of July 17th, 2014](#) “Individuation of non-general management offices of the Ministry of Economic Development”.

The Division I is competent in the sector of general affairs, expropriations in the energy field and royalties.

UNMIG Sections (Divisions II, III and IV) organize and carry out surveillance activity, with reference to verifications, safety of installations, inspections, accident prevention, health and safety of workers, also with respect to the application of the rules of mining police, both onshore and offshore, in the field of hydrocarbons prospection, exploration, exploitation and storage.

The chemical and mineralogical Laboratories of the Division V carry out checks on explosives for mining use, campaigns for inspection, sampling and chemical analyses of minerals derived from mining sector activities, gas quality controls.

The Division VI is competent in the task of licenses release and management for hydrocarbons, research for geothermal activities and geothermal pilot plants. The Division VI works also on promotion and support in the raw material sector in foreign Countries of interest for national safety policy and supply, on quarry and mines, Official Bulletin of Hydrocarbons and Geothermal Resources (BUIG), cartography and statistics.

Communication

Website

The communication of data under the competence of the Directorate General is made via the website <http://unmig.mise.gov.it>, which, in addition to inform on conferred mining permits and on the administrative processes, provides a set of data of general interest, such as hydrocarbons production, revenues from royalties, lists of wells, platforms, treatment and collection plants, as well as a space for spreading knowledge and an informative section on regulations of the industry.

Amongst the areas of interest, information is available also on activities under the responsibility of DGRME: exploration and production of hydrocarbons, storage of natural gas, geothermal activities, capture and storage of carbon dioxide (CCS), activities of the solid minerals sector and information about the activities of coordination, participation and promotion carried out at regional and international level, events organized by the Directorate-General and those in which it took part.

Published on the website, it is also the Official Bulletin of Hydrocarbons and Geothermal Resources (BUIG), that is the official document with monthly update of the submitted applications, the awards of new titles, the lists of titles in force and the current news and notices connected with the hydrocarbons exploration and production and the storage of natural gas and, in particular, the new regulations or notes.

Events

During 2014, the DGRME took part in international and national energy panorama also by participating to several events, both in Italy and abroad. The attendance aimed to disseminate the DGRME activities, to strengthen relationships exiting with stakeholder, citizens, administrations and operators.

The main events are described in the follow:

Energy in Sardinia Region. Old problems and new perspectives

Sassari (Italy) - March 21st, 2014

The Antonio Segni Foundation organized this conference on energy issues. The Director of DGRME, Franco Terlizese, attended the conference with a contribution on "Hydrocarbons on National Energy Strategy. Focus on Sardinia offshore", about the new perspectives for O&G sector in the Mediterranean Sea and in the West Sardinia offshore area. <http://unmig.mise.gov.it/unmig/agenda/dettaglionotizia.asp?id=170>

Numerical simulation Seminary

Rome (Italy) - May 15th, 2014

“The numerical simulation in energy-mining sector: an opportunity to solve complex problems”, promoted by DGRME, occurred at the Ministry of Economic Development , in the “Parlamentino” Room.

This event represented an exchange of views among the different experience - academic, institutional and industrial- about the application of simulation methods on energy-mining activities and processes, with a focus on geo-mechanical modeling.

The seminary takes part in a series of meeting promoted by the Ministry of Economic Development for giving the right importance to energy-mining sector in the Country, both under the economical point of view and in terms of scientific research and technological innovation with clear advantages for occupation and increase of know-how.

<http://unmig.mise.gov.it/unmig/agenda/dettaglionotizia.asp?id=183>

Beyond the Arctic Circle - Italian day in Tromsø

Tromsø (Norway) - June 11th, 2014

“Beyond the Arctic Circle -Italian day in Tromsø” was an event dedicated to cooperation between Italy and Norway in the Arctic region, promoted by Italian Embassy in Oslo. It was organized with Tromsø Arctic University, under the patronage of Akvaplan Niva, Arctic Frontiers, Cage and the municipality of Tromsø.

The event was characterized by 4 sessions: the institutional-political one, the scientific one, the economic one and the operating further planning one.

<http://unmig.mise.gov.it/unmig/agenda/dettaglionotizia.asp?id=193>

Open-door meeting on the experience of Monitoring Lab Cavone

Novi di Modena (Italy) – August 1st, 2014

The meeting was promoted in order to present to public, in parallel with the publication on the web-site www.labcavone.it, the data collection activities and the field tests carried out at Cavone site. At the end of the works, the results of the studies, of the tests, of the reservoir model upgrading and the conclusions reached were finally disclosed.

<http://unmig.mise.gov.it/unmig/agenda/dettaglionotizia.asp?id=252>

VIGOR Project - “Geothermal potential evaluation in the Convergence Regions”

Rome (Italy) - September 29th, 2014

The workshop occurred at the CNR headquarter and it aimed to present the final results and the knowledge gained by the VIGOR Project for the evaluation of geothermal resource and its promotion in the Convergence Regions (Calabria, Campania, Puglia e Sicily).

The Project aimed to strengthen regional territories in the use of a local renewable energy source, collecting and disseminating scientific, technical, economic and environmental information, necessities to evaluate geothermal potential. The evaluations can involve all the uses of geothermal resource, also with the purpose to provide indications and recommendations for a wide use of geothermal energy to develop sustainable energy and energy efficiency as required by European Union. The Project answer also to the need to facilitate the planning and the operating of integrated models to produce renewable energy and the growth and diffusion of information, in order to allow aware decisions for policy makers and for people.

About energy planning, DGRME attended with a contribution on value and methodological approach in VIGOR Project compared to ordinary activities of public competence in geothermal sector.

<http://unmig.mise.gov.it/unmig/agenda/dettaglionotizia.asp?id=253>

Opening ceremony of petroleum Museum - POGam Piacenza Oil&Gas Museum

Piacenza (Italy) - October 1st, 2014

The petroleum Museum was opened at the Negrotti pavilion of the Urban center in Piacenza, for initiative of the “Piacenza Oil and Gas Museum Committee” and the “Pioneer and Experts Eni Association”, in cooperation with the municipality and the provincial consulate of the Italian federation of “Maestri del Lavoro”.

This Meuseum was created for explaining the gas and oil source in Italy and the story of Italian industries that work in this sector, with a particular focus on energy story of Piacenza. <http://unmig.mise.gov.it/unmig/agenda/dettaglionotizia.asp?id=225>

Geofluid - Drilling & foundations

Piacenza (Italy) - October 1st-4th, 2014

The 20th edition of GEOFLUID occurred at Piacenza Expo exhibition centre (www.geofluid.it). This international exhibition is specialized on underground fluids research, production and transport sectors.

The DGRME participated to the workshop entitled “Geo-engineering problem: environmental and safety aspects related to storage of fluids in the underground”, promoted by ANIM - Mining engineers national association, with a contribution entitled “Guidelines for micro-seismicity, soil deformation and pore pressure monitoring in mining activities: status of the art and pilot cases applications”.

Then, in the frame of a second event organised by the “National Council of Geologists”, DGRME presented a contribution entitled “Research and use of natural resources in Italy: opportunity or problem?”.

<http://unmig.mise.gov.it/unmig/agenda/dettaglio-notizia.asp?id=226>

European Rare Earths Competency Network (ERECON)

Milan (Italy) - October 16th, 2014

The final conference of European Rare Earths Competency Network (ERECON) occurred at the Polytechnic of Milan.

ERECON (<http://ec.europa.eu/enterprise/policies/raw-materials/erecon>) is a project founded by European parliament and its objectives are:

- face the rare earths supply safety issue;
- increase the knowledge on typical properties of rare earths;
- formulate recommendations about research issue;
- promote sustainable production, recycling and replacement of raw material from which European Union is depending for most of its own demand (China alone covers about 97% of global demand).

During the conference the final report of the project was presented and the recommendations for EU, Member States and industries were explained, about more efficient energy policies to improve rare earth mining activities and the efficient use and recycling of the same.

JRC-DGRME Workshop on Offshore Oil & Gas Safety

Siracusa (Italy) - October 20th-21st, 2014

European Commission, [JRC-Joint Research Centre/Institute for Energy](#), organized the event with the cooperation of DGRME in the frame of 2013/30/UE Directive activities. The event was focused on offshore oil and gas activities safety.

On October 20th, the Workshop “Safety of E&P offshore activities and Major hazards reports” occurred and the DGRME presented the contribution entitled “Major Hazards documentation in Italy”.

On October 21st, an inspection on Vega A installation, operated by Edison SpA took place and the visitors coming from the main European States interested in petroleum activities were involved in the visit.

<http://unmig.mise.gov.it/unmig/agenda/dettaglio-notizia.asp?id=217>

Arctic Circle Conference

Reykjavik (Iceland) - October 31st - November 2nd, 2014

DGRME participated to technical session dedicated to Italy of this event about [Arctic Circle](#), with a contributions on geothermal energy.

The Arctic Countries are really interested in development of low carbon energy sources. The “Arctic Circle” conference, organized under the patronage of the President of the Republic of Iceland, is considered one of the most important event where politicians, academics and businessmen, coming from more than 40 different Countries such as USA, Russia, Canada, China, Japan and many others, exchange their opinions about challenges and opportunities given by the Arctic Region, concerning energy, environmental safety and sustainable development.

<http://unmig.mise.gov.it/unmig/agenda/dettaglionotizia.asp?id=170>

Geo4P - Pilot Project in Pisa Plain

Pisa (Italy) - November 5th, 2014

Geo4p is a pilot project for developing a new methodology for evaluating quantitatively geothermal resource at extra-low, low and medium enthalpy in the Pisa Plain. The Conference for the presentation of the initiative and of its first results took place in Pisa.

The event was jointly organized by all public bodies involved in the initiative: DGRME, the Toscana Region, the Pisa Province, the Pisa University, the Scuola Superiore Sant’Anna, the Consortium for the development of Geothermal-areas - Co.Svi.G., the EnerGea, the Agency for Energy and Water of the Province of Pisa – AEP and Acque S.p.A.

<http://unmig.mise.gov.it/unmig/agenda/dettaglio.asp?id=254>

Hydrocarbon: from problem to national resource

Rome (Italy) - November 6th, 2014

The conference, organized by [Start Magazine](#), took place at the Civita Association headquarter. Experts and technicians of the field showed the status of E&P activities in Italy, with particular attention on potentialities and criticalities. In particular, it dealt with the contribution of the mining activities on the energy supply and on development of the Country, with the hypothetical impacts of such activities (issue of induced seismicity and ongoing seismicity monitoring), with the economic criticalities and the problem of public acceptance that affect the italian projects

<http://unmig.mise.gov.it/unmig/agenda/dettaglionotizia.asp?id=233>

Hydrocarbons and seismicity in Italy

Rome (Italy) - November 12th, 2014

The workshop on “Hydrocarbons and Seismicity” was organized by Assomineraria and the Italian Geological Society in collaboration with the Regional Geologists Order of Lazio Region, under the patronage of ISPRA – Geological Service, in order to create an opportunity to provide correct and scientific information based upon authoritative sources as well as to foster a climate of transparency in the world of oil & gas. The meeting, composed by several moments of in-depth scientific analysis, was opened by an examination on national exploration and production activities and Italian regulatory framework which is, internationally, one of the most rigorous. The workshop also focused on seismic-tectonic features of our Country and on the monitoring of seismic phenomena related to the exploitation of the underground, whose details were highlighted by the main academic and research experts. During the event, DGRME, through an intervention by the Director-General Franco Terlizze and Eng. Liliana Panei, illustrated the national regulatory framework interesting the activities covered by the workshop, analysing criticalities and perspectives.

<http://unmig.mise.gov.it/unmig/agenda/dettaglio-notizia.asp?id=233>

The Sea: the sustainability as development driving force

Livorno (Italy) - November 14th-15th, 2014

The workshop was promoted by Italian Presidency of the Council of European Union and by Ministry of Environment. The event involved politicians, experts and research bodies that operate on biological and non-biological sea resources.

DGRME participated with a contribution on “sustainable use of mining sea resources” that aimed to underline how the development and the growing of the Country are slowed down by the lack of a common energy strategy.

The Marine Strategy Directive will help to pass this limit by creating an integrate framework for environmental safety and sustainable development. At the end of the workshop the so called “Charter of Livorno” document was signed: it is a summary about principles on sea issues that are shared among the different administrations.

<http://unmig.mise.gov.it/unmig/agenda/dettaglio-notizia.asp?id=235>

An energy bridge on the Mediterranean Sea

Rome (Italy) - November 19th, 2014

The Italian Presidency of the Council of European Union organized such workshop on energy issues in the frame of six months of Italian Presidency. The Member States and the Euro-Mediterranean countries are asked to exchange their views on the issue: “Building a Euro-Mediterranean Energy Bridge: The strategic importance of the Euromed Gas and Electricity networks in the Context of Energy Security”.

The Minister of Economic Development, Federica Guidi, opened the debate pointing out the importance of strategic projects for improving the energy network among the Mediterranean countries. The main aim shall be the promotion of an integrated energy system that can be able to achieve the environmental sustainability and the clean energy sources development. The meeting was concluded with the signature of a [Final statement](#).

<http://unmig.mise.gov.it/unmig/agenda/dettaglionotizia.asp?id=240>

33rd Conference of Geophysics National Group on Solid Earth (GNGTS)

Bologna (Italy) - November 25th-27th, 2014

The GNGTS was founded in 1978 by the merger of the Committee on Mining and Applied Geophysics and the Seismic Profiles Group (operating since 1956, under the auspices of the European Seismological Commission). From the very beginning it has acquitted its founding tasks (“promote and coordinate scientific and application activities”) coordinating geophysical research activities on solid earth carried out by different Institutions and promoting integrated large scale initiatives of national and international scope.

Within the activities of 33rd Conference, the DGRME participated actively at the unfolding of the works through two speeches: the first one concerning “Lab Cavone: an example of collaboration between MiSE – Region – Operators”, the second one on the “Guidelines for micro-seismic monitoring, ground deformation and pore pressure application in pilot cases”.

<http://unmig.mise.gov.it/unmig/agenda/dettaglionotizia.asp?id=256>

6th GeoPower Global Congress

Istanbul (Turkey) - December 3rd - 4th, 2014

The [GeoPower Global Congress](#), the most expected event in the geothermal sector, is organised in collaboration with the European Geothermal Energy Council (EGEC) and represents an important occasion of meeting for the main suppliers, investors and global stakeholders. This for discussing about developing strategies of geothermal projects (low, medium and high enthalpy), for sharing technical and legislative competences, for knowing the financial opportunities of international markets and for meeting the main actors of the developing markets. The event saw the participation of 150 delegates from all over the world and took place in Turkey, one of the main hub for the geothermal energy development. The objectives of GeoPower Global Congress

were agreed by all stakeholders of the sector: overcome barrier for the development and utilisation of geothermal resources, in particular the financial and normative ones, optimise the exploration, drilling and production projects through innovative technologies in order to guarantee profitability and efficiency of low enthalpy projects. The DGRME, representing Italy, participated with an essay entitled “The impact of large numbers of neighbouring licenses on sustainable production - examining how legislation in Italy overcome the issues arising from multiple licenses in the proximity of connected geothermal resources”.

<http://unmig.mise.gov.it/unmig/agenda/dettaglionotizia.asp?id=257>

HYDROCARBONS

The Directorate-General for Mineral and Energy Resources is the competent authority for the issuance of exploration and production licenses for liquid and gaseous hydrocarbons and gas storage activities.

In the evaluation of the working programs included in the applications for mining titles, and in other cases provided by law, the DGRME shall request the opinion, not binding, of the Commission for Hydrocarbons and Mineral Resources (CIRM), in which the relevant Governmental Authorities are represented (in addition to the Ministry of Economic Development, the Ministry of the Environment and the Protection of Land and Sea, the Ministry of Education, University and Research, ISPRA, the General Attorney of the State) together with regional representatives.

In accordance with environmental legislation, the DGRME coordinates its activity with the Ministry of the Environment and the Protection of Land and Sea and with the Regions, which are in charge of the environmental compatibility assessment of projects, respectively, in the offshore and onshore.

These projects are subject to the procedure of verification of environmental submission and/or to the environmental impact assessment by the Ministry of Environment or by the Region concerned. The exploration licenses and development concessions for onshore projects are issued by the Ministry of Economic Development, through Decree of the Director General of DGRME, with the concurrence of the concerned Regions.

The involvement of local communities is guaranteed by the role played in the process by the concerned Municipalities and the Provinces, which give their opinion on the execution of the projects and of the plants and verify the compliance of the works with the urban planning.

In the procedures for the issuing exploration and production offshore licenses, the Ministry of Transport and the Ministry of Agricultural, Food and Forestry Policies are also involved.

The following paragraph illustrates the updated data at December 31st, 2014 which are useful to outline the Italian situation with regards to exploration and production of hydrocarbons and to underground natural gas storage.

Exploration and production of hydrocarbons

Mining titles

As at December 31st, 2014 the following titles are in force on the Italian territory:

- ❖ 117 [exploration licenses](#) (of which 95 onshore, and 22 offshore);
- ❖ 201 [production licenses](#) (of which 132 onshore and 69 offshore).

It should be noted that the activities of hydrocarbons exploration and production take place in a very small portions of the whole Italian area. In fact, onshore mining titles covered an area of about 33,861.76 km², whose only 16 km² are interested by exploration and production activities, equal to 0.05% of the total area.

Moreover, some awarded titles are not operative. In fact, only 48 out of 95 onshore exploration licenses are active. Among the remaining 47, 8 have a suspension for elapsed time ongoing, 26 are under application for suspensions, 7 have been renounced and, finally, for 6 of them that have reached the title expiration date, a verification of effected environmental recovery is ongoing. As concerning the production licenses, 13 of them have been withdrawn and 4 passed the expiration date of the title.

Table 1 shows the number of exploration and production licenses for each Region¹. Region with the highest number of titles are Emilia-Romagna, Lombardy and Basilicata.

REGION	EXPLORATION LICENSES	PRODUCTION LICENSES
Abruzzo	11	8
Basilicata	10	20
Calabria	0	3
Campania	2	0
Emilia-Romagna	35	36
Friuli-Venezia Giulia	0	1
Lazio	6	1
Lombardia	17	17
Marche	8	19
Molise	5	7
Piemonte	9	1
Puglia	2	14
Sardegna	1	0
Sicily	5	14
Toscana	1	2
Veneto	1	1
TOTAL ¹	95	132

Table 1 - Mining titles onshore - Update December 31st, 2014

¹ In Tables 1 and 2 the mining titles belonging to one or more regions/zones are computed each time for each region/zone they belong to.

As for the offshore activities, licenses interest 6 areas (Zones A, B, C, D, E, F and G) as shown in Table 2 and Chart 1 and Chart 2.

MARINE AREAS	EXPLORATION LICENSES	PRODUCTION LICENSES
ZONE A	8	39
ZONE B	5	20
ZONE C	5	3
ZONE D	3	4
ZONE F	3	3
ZONE G	3	1
TOTAL ¹	22	69

Table 2 - Mining Titles offshore - Update December 31st, 2014

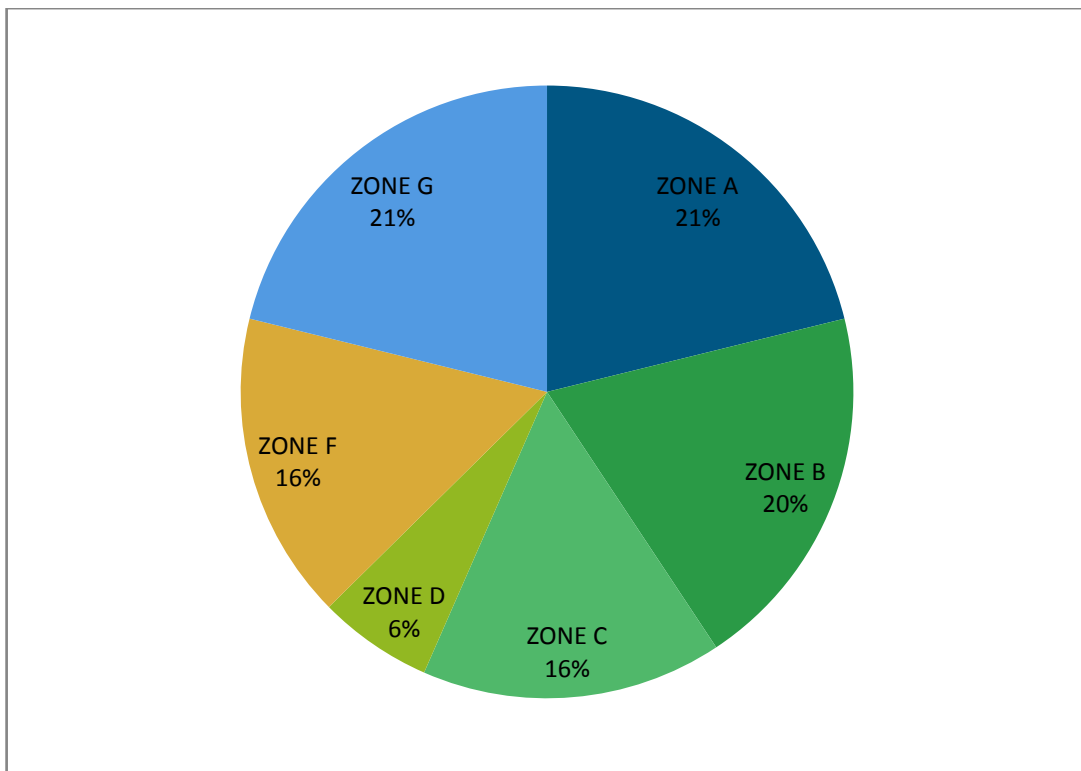


Chart 1 - Percentage of areas under exploration licenses per marine areas - Year 2014

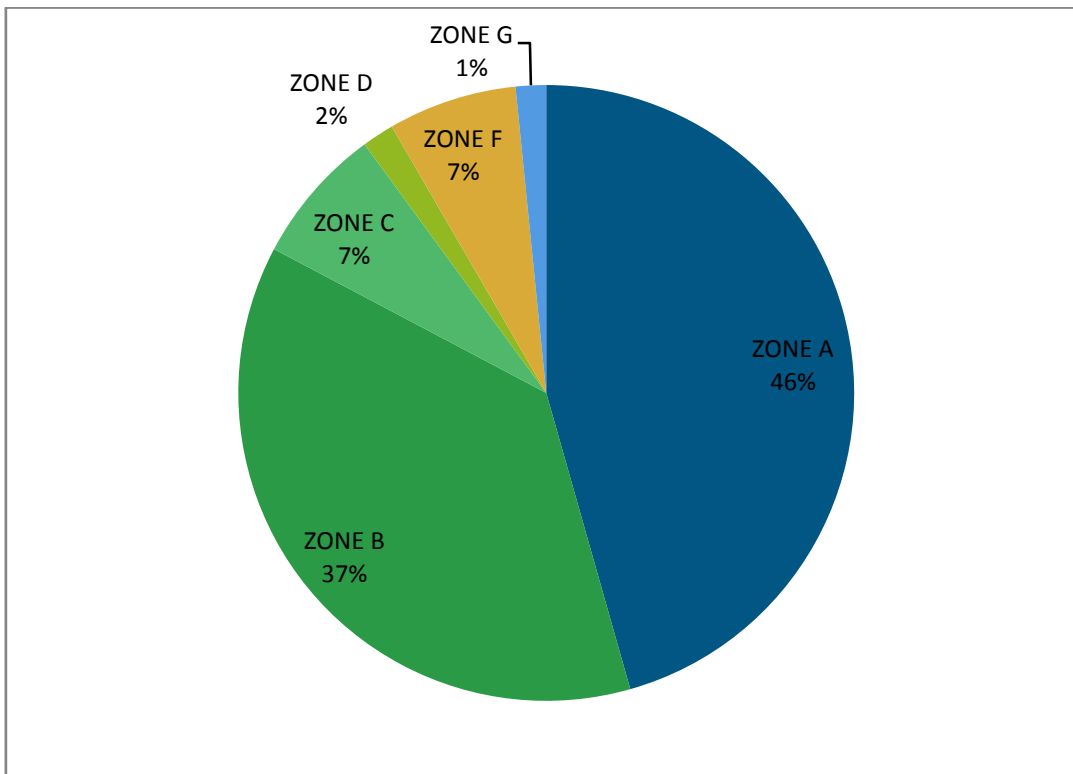


Chart 2 - Percentage of areas under exploitation concessions per marine areas - Year 2014

Compared with the year 2013, as shown in Table 3, in Chart 3 and in Chart 4, the number of exploration licenses and exploitation concessions remained constant.

In addition, Table 3, Chart 3 and Chart 4 show clearly that, while the number of exploitation concessions was almost constant, in the last five years the number of exploration licenses had a positive peak between 2010 and 2011 due to the restart, in 2008, of works of the [CIRM](#) Commission, after a period of stalemate, and the simultaneous obtainment of the necessary concurrence (“Intesa”) from the concerned Regions.

In 2014, 5 new exploration licenses ([CASCINA ALBERTO](#), [CASCINA GRAZIOSA](#) and [SCARPIZZOLO](#) onshore and [C.R149.NP](#) and [D.R 74.AP](#) offshore) and 2 new production licenses ([SAN LORENZO](#) onshore and [G.C 1.AG](#) offshore) were awarded. In the same year, renouncement of 4 exploration licenses ([MONTE GALLO](#), [CIVITAQUANA](#) and [PIZZO SCIABOLONE](#) onshore and [E.R 54.PU](#) offshore) has been accepted. In addition, specific Decrees were issued for a three-year exploration license extension ([MONTEMARCIANO](#)), for the enlargement of the [CASCINA CASTELLO](#) production license, for 8 ownership stakes transfer and for 21 exploration permits suspension/reactivation due to expiry of the limit time.

Year	EXPLORATION LICENSES			PRODUCTION LICENSES			TOTAL
	Onshore	Offshore	Total	Onshore	Offshore	Total	
1994	89	63	152	138	54	192	344
1995	82	64	146	133	58	191	337
1996	95	53	148	126	58	184	332
1997	107	55	162	125	57	182	344
1998	134	56	190	137	59	196	386
1999	119	55	174	156	67	223	397
2000	100	48	148	153	68	221	369
2001	95	45	140	150	69	219	359
2002	90	40	130	135	69	204	334
2003	69	34	103	146	69	215	318
2004	68	27	95	140	69	209	304
2005	60	30	90	140	69	209	304
2006	64	29	93	133	66	199	292
2007	58	32	90	131	67	198	288
2008	71	27	98	129	66	195	293
2009	72	25	97	131	66	197	294
2010	92	25	117	132	66	198	315
2011	96	25	121	133	66	199	320
2012	94	21	115	134	66	200	315
2013	94	21	115	134	66	200	315
2014	95	22	117	132	69	201	318

Table 3 - Mining titles for hydrocarbons - Time Series 1994-2014

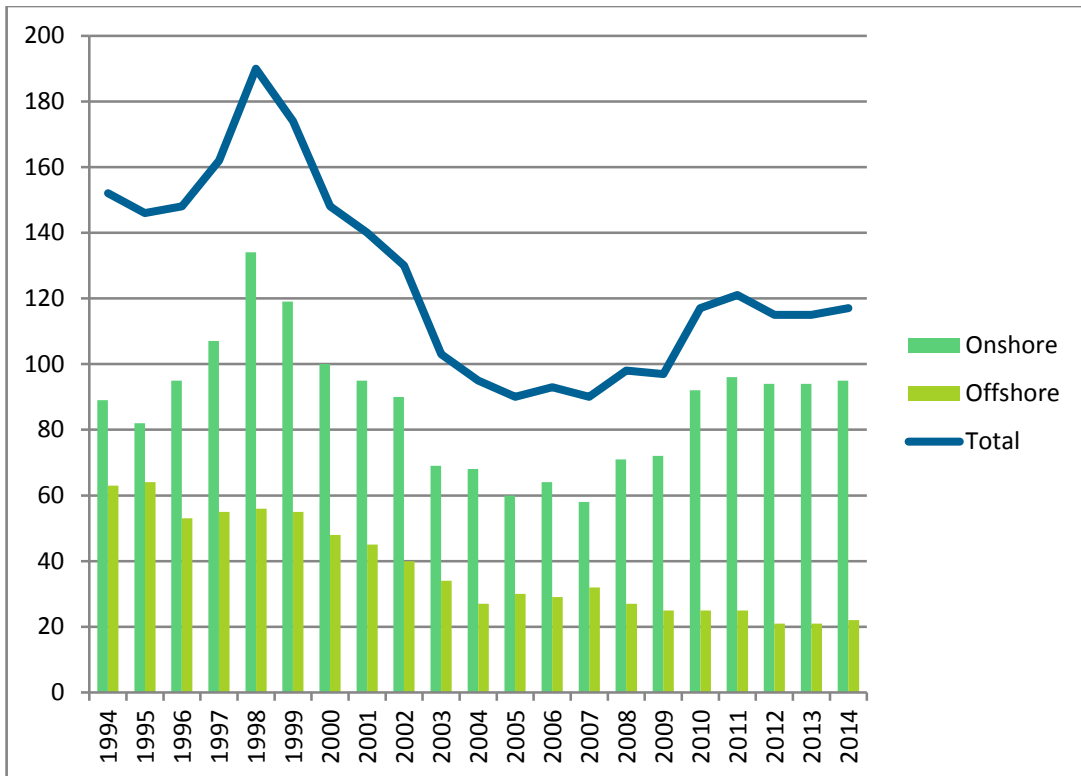


Chart 3 - Number of Exploration Licenses - Time Series years 1994-2014

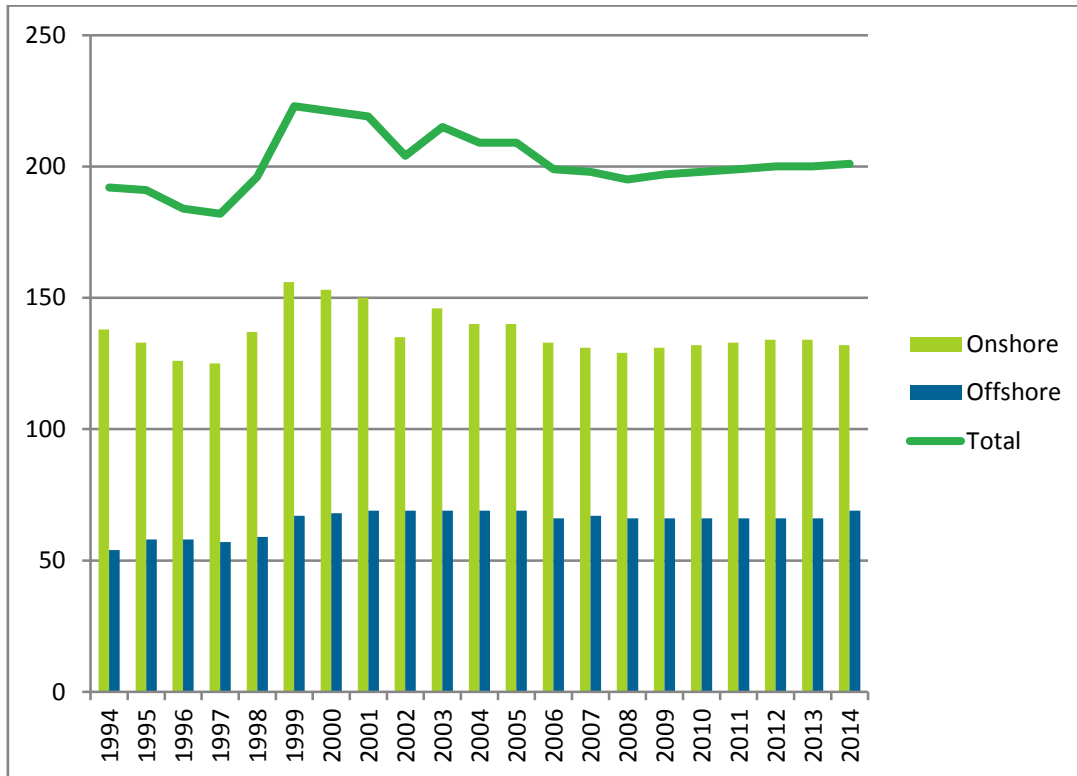


Chart 4 - Number of Production licenses - Time Series years 1994-2014

Drilling activity

In 2014 drilling activities were carried out on 12 wells, 4 onshore and 8 offshore (Table 4). 8 in 12 are development wells (all offshore), while the remaining 4 (all onshore) are 3 storage wells and a monitoring one. It is underlined that in 2014, no exploration wells were drilled.

These data show how the activities of the operators are currently almost exclusively oriented to optimize the development of existing fields, rather than to the research and development of new resources.

In the course of 2014, drilling activities involved 11 drilling rigs (1 well was completed² in 2014 but drilling was completed in 2013), for a total of 22,391 meters drilled. In particular, 10 of them were successful and 1 was a dry hole. At the date of December 31st, 2014 the perforation of one well was still ongoing.

No.	Well name	Scope	Meters	Spud	End (a)	Result
1	ANEMONE 012 DIR B	Development	3,508	11/22/14	(b)	
2	ARMIDA 004 DIR A	Development	(c)	08/19/13	02/10/14	Gas
3	BARBARA D 031 DIR B	Development	2,108	04/26/14	06/20/14	Gas
4	BARBARA D 034 DIR B	Development	1,196	02/04/14	04/14/14	Gas
5	BORDOLANO 028 DIR	Storage	1,902	01/16/14	04/16/14	Gas
6	ELETTRA 003	Development	1,185	04/19/14	06/22/14	Gas
7	FAUZIA 002	Development	2,308	04/30/14	08/04/14	Gas
8	FAUZIA 003 DIR	Development	2,387	05/07/14	08/27/14	Gas
9	LA COCSETTA 001 DIR A	Monitoring	861	08/23/14	10/06/14	Dry
10	REGINA 004 DIR B	Development	2,075	01/02/15	12/19/14	Gas
11	SETTALA 032 OR	Storage	2,185	01/02/14	06/25/14	Gas
12	SETTALA 033 OR	Storage	2,676	01/02/14	07/02/14	Gas

Table 4 - Drilling activities with specification of purpose - Year 2014

(a) Column "End" indicates the date of the end of the activity that coincides with the date of completion, for wells with a positive outcome, or by the date of shut off, for dry holes.

(b) Drilling still in progress at December 31st, 2014

(c) Drilling completed before January 1st, 2014

² Completion: the preparation of a well already drilled in order to start production from it. Following drilling operations, it consists in opening the production levels, dropping down in the well the production kit, together with the valves for controlling the flow and the safety, and any down hole pumping systems, and the installation of the production Christmas-tree on the wellhead.

YEAR	EXPLORATION					
	ONSHORE		OFFSHORE		TOTAL	
	no.	meters	no.	meters	no.	meters
1994	14	30,142	10	23,467	24	53,609
1995	19	55,017	8	14,793	27	69,810
1996	22	67,664	10	27,550	32	95,214
1997	22	62,800	11	30,266	33	93,066
1998	23	62,962	9	18,794	32	81,756
1999	12	25,763	6	12,374	18	38,137
2000	14	35,721	6	19,065	20	54,786
2001	9	21,610	2	2,325	11	23,935
2002	3	3,016	5	11,200	8	14,216
2003	5	11,576	5	8,658	10	20,234
2004	10	22,223	0	0	10	22,223
2005	7	15,085	0	0	7	15,085
2006	12	17,906	3	9,139	15	27,045
2007	9	15,925	1	3,517	10	19,442
2008	4	7,274	3	6,673	7	13,947
2009	3	5,627	0	0	3	5,627
2010	3	4,183	0	0	3	4,183
2011	1	715	0	0	1	715
2012	4	5,554	0	0	4	5,554
2013	2	1,030	0	0	2	1,030
2014	0	0	0	0	0	0

Table 5 - Drilling activities for exploration purposes.
Time Series year 1994-2014³

In 2014, the number of new drilling declined, in line with the trend of the last decade and there was a progressive reduction in the exploration of new accumulations. In particular in the last five years (Table 5 - Table 6 and Chart 5 - Chart 6), 135 new wells were completed, only 10 of which were exploration wells (7.45%). The downward trend is more significant for offshore activities: in the last 6 years no new exploration wells were drilled.

³ SANT'ANDREA 001 DIR ST1 well was erroneously inserted in the annual report 2014 as exploration well not yet completed. For this reason, in this report it has been inserted as successful well completed in 2013, increasing the final amount from 1 to 2.

YEAR	DEVELOPMENT AND OTHER					
	ONSHORE		OFFSHORE		TOTAL	
	no.	meter	no.	meter	no.	meter
1994	9	14,447	46	128,733	55	143,180
1995	19	41,380	10	26,375	29	67,755
1996	17	23,920	27	87,911	44	111,831
1997	16	34,259	10	29,285	26	63,544
1998	26	35,912	17	41,448	43	77,360
1999	14	24,476	12	28,086	26	52,562
2000	14	18,949	19	27,058	33	46,007
2001	14	52,781	15	39,086	29	91,867
2002	15	23,506	7	19,699	22	43,205
2003	9	35,182	21	28,380	30	63,562
2004	7	18,105	22	41,189	29	59,294
2005	9	16,632	24	49,399	33	66,031
2006	14	21,597	17	29,714	31	51,311
2007	13	17,886	15	33,027	28	50,913
2008	18	41,803	7	14,330	25	56,133
2009	29	37,124	20	37,770	49	74,894
2010	11	28,889	17	23,568	28	52,457
2011	14	23,474	22	31,621	36	55,095
2012	14	21,361	17	24,561	31	45,922
2013	10	18,949	8	26,386	18	45,335
2014	4	7,624	8	14,767	12	22,391

Table 6 - Drilling Activity for development purposes
Time Series years 1994-2014 ⁴

ANNO	TOTAL	
	well number	meter drilled
1994	79	196,789
1995	56	137,565
1996	76	207,045
1997	59	156,610
1998	75	159,116
1999	44	90,699
2000	53	100,793
2001	40	115,802
2002	30	57,421
2003	40	83,796
2004	39	81,517
2005	40	81,116
2006	46	78,356
2007	38	70,355
2008	32	70,080
2009	52	80,521
2010	31	56,640
2011	37	55,810
2012	35	51,476
2013	20	46,365
2014	12	22,391

Table 7 - Drilling Activity
Time Series years 1994-2014

The research of new hydrocarbon fields saw its greatest period of growth in the early 90s with about a hundred new wells per year drilled, mostly for exploration purposes. From the second half of the 90s the number of new drillings has gradually decreased, and particularly in the last decade, there was a progressive decrease in the research for new accumulations.

The limited exploration activity is mainly due to the difficulty and the time length required for issuing the [licenses](#) and the necessary authorization for drilling. The status of the processes for the issuance of [exploration licenses](#) and [production licenses](#) is constantly updated on the website of the DGRME.

⁴ Storage wells BORDOLANO 25 DIR, BORDOLANO 26 DIR E BORDOLANO 27 DIR well were erroneously inserted in the annual report 2014 as exploration well not yet completed. For this reason, in this report it has been inserted as successful well completed in 2013, increasing the final amount from 7 to 10.

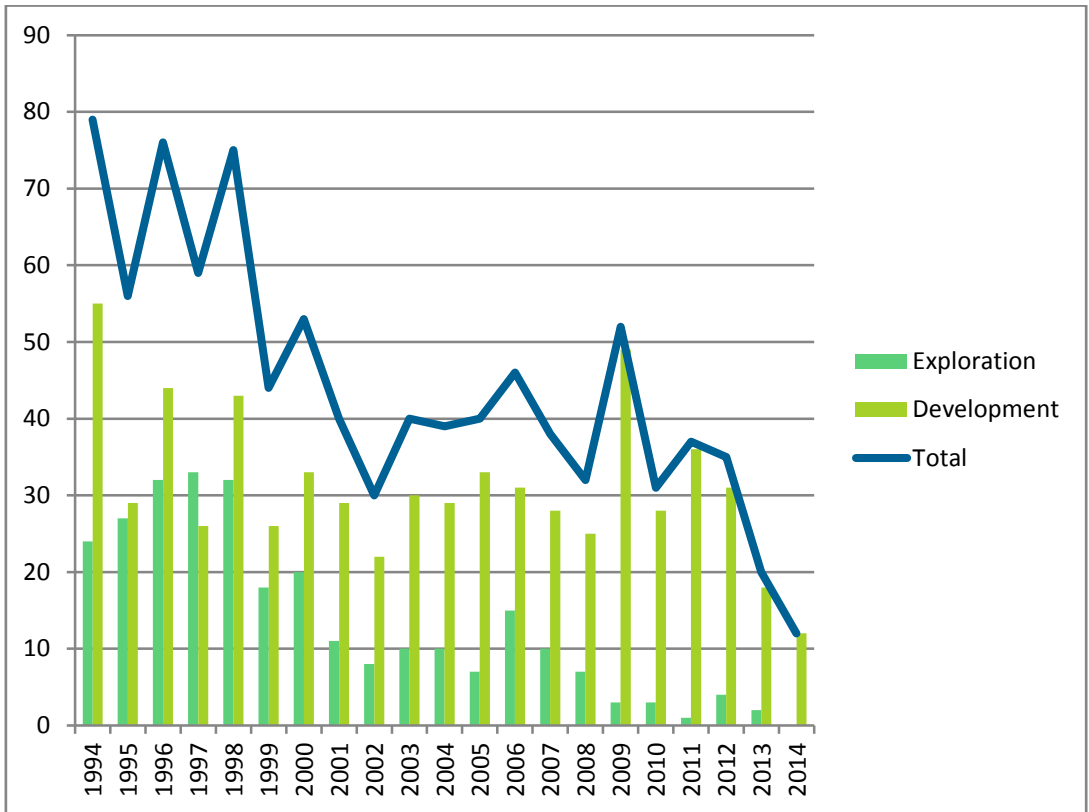


Chart 5 - Number of drilled wells - Time Series years 1994-2014

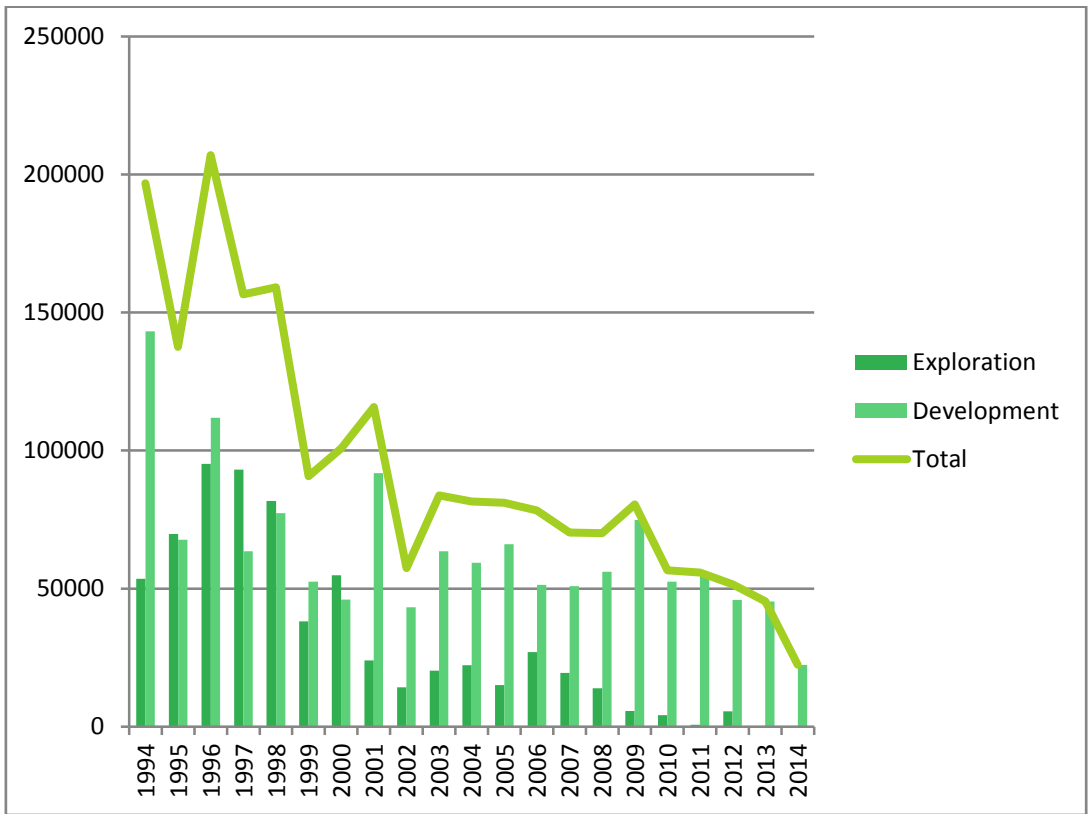


Chart 6 - Drilled meters - Time Series years 1994-2014

Hydrocarbons discoveries

No discovery was made in 2014. In Table 8 and Table 9 the list of discoveries is reported for both gas and oil for the period 2004 to 2014.

YEAR	WELL NAME	PROVINCE/ MARINE ZONE	LOCATION
2004	ABBADESSE 001 DIR	RA	ONSHORE
	CIVITA 001 DIR	CH	ONSHORE
	MONTE DALL'AQUILA 001 DIR	CT	ONSHORE
	MONTE GUZZO 001 DIR	AP	ONSHORE
	SANTA MADDALENA 001 DIR	BO	ONSHORE
2005	MEZZOCOLLE 001 DIR	BO	ONSHORE
2006	CODOGNO 001 DIR	CR	ONSHORE
	COLLE SCIARRA 001 DIR A	TE	ONSHORE
	FILICI 001 DIR A	MT	ONSHORE
	FONTE FILIPPO SUD EST 001	CH	ONSHORE
	LONGANESI 001	RA	ONSHORE
	RIPALTA 061 OR	BO	ONSHORE
	SILLARO 001 DIR	BO	ONSHORE
	VITALBA 001 DIR	CR	ONSHORE
	BENEDETTA 001 DIR	Zona A	OFFSHORE
	ARGO 001	Zona B	OFFSHORE
2007	COLLE SCIARRA 001 DIR B	TE	ONSHORE
	MONTE PALLANO 001 DIR	CH	ONSHORE
	MONTE PALLANO 002 DIR	CH	ONSHORE
2008	MONTE DELLA CRESCIA 001 DIR	AN	ONSHORE
	CASSIOPEA 001 DIR	Zona G	OFFSHORE
	ARGO 002	Zona G	OFFSHORE
2009			
2010	MASSERIA MORANO 001 DIR	AN	ONSHORE
2011			
2012	CASA TIBERI 001	AN	ONSHORE
2013	GRADIZZA 001	FE	ONSHORE
	SANT'ANDREA 001 DIR ST1	TV	ONSHORE
2014			

Table 8 - GAS - Hydrocarbons Discoveries - Time Series 2004-2014⁵

⁵ SANT'ANDREA 001 DIR ST1 well were erroneously inserted in the annual report 2014 as exploration well not yet completed. For this reason and because of the fact that it was successful, it was counted as discovery in 2013.

YEAR	WELL NAME	PROVINCE/ MARINE ZONE	LOCATION
2004	TRESAURO 001 DIR	RG	ONSHORE
2005			
2006			
2007			
2008	OMBRINA MARE 002 DIR	Zona B	OFFSHORE
2009			
2010			
2011			
2012			
2013			
2014			

Table 9 - OIL - Hydrocarbons Discoveries - Time Series 2004-2014

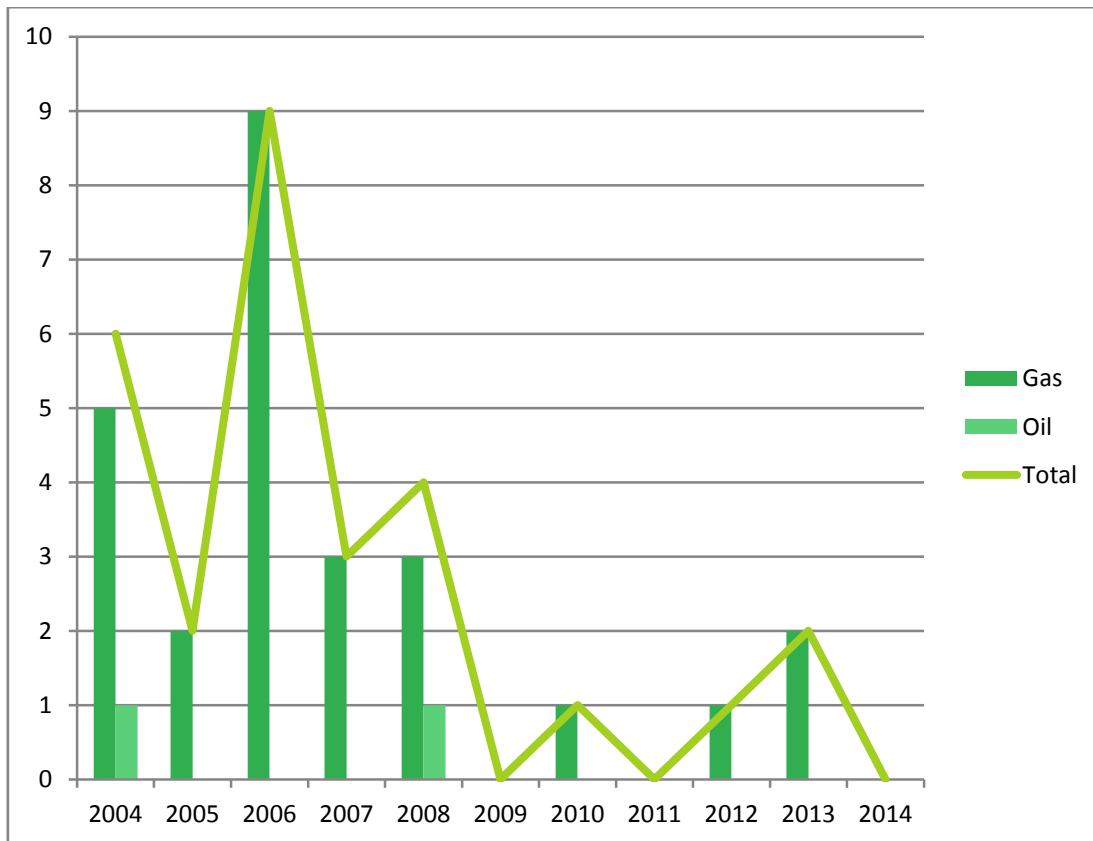


Chart 7 - Number of discoveries - Time Series years 2004-2014

Production activity

Table 10 shows the time series of hydrocarbons production in the last decade. In the year 2014, the [production of hydrocarbons](#) recorded a slight increase for the crude oil (+5%), compared to the previous year value, and a decrease for natural gas (-6%).

As shown in Charts 8 and 9, the last decade was characterized, in the first phase, by a steady decline of production, with minimum values recorded in 2009. For what concern oil, a more recent period of growth can be seen, that began in 2010 and was confirmed by data production of 2014. For natural gas, after an initial improvement started in 2011 and continued in 2012, production in 2013 and 2014 restarted to decrease again recording the historical minimum of 7.28 billion of Sm³.

Year	GAS (Billion of Sm ³)			OIL (million of t)			GASOLINE (kt)		
	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total
1994	4.58	16.06	20.64	3.61	1.26	4.87	12.00	6.00	18.00
1995	4.29	16.09	20.38	4.09	1.12	5.21	22.00	6.00	28.00
1996	4.09	16.13	20.22	4.39	1.04	5.43	17.00	5.00	22.00
1997	3.92	15.54	19.46	4.87	1.07	5.94	17.00	5.00	22.00
1998	3.64	15.53	19.17	4.08	1.52	5.60	18.00	4.00	22.00
1999	3.33	14.29	17.62	3.40	1.59	4.99	17.00	5.00	22.00
2000	3.66	13.11	16.77	3.20	1.36	4.56	25.00	6.00	31.00
2001	2.94	12.61	15.55	3.11	0.96	4.07	23.00	8.00	31.00
2002	2.79	12.15	14.94	4.47	1.03	5.50	22.00	11.00	33.00
2003	2.68	11.32	14.00	4.54	1.00	5.54	24.74	5.58	30.33
2004	2.38	10.54	12.92	4.46	0.95	5.41	23.00	6.00	29.00
2005	2.41	9.55	11.96	5.32	0.77	6.09	22.55	4.02	26.58
2006	2.33	8.51	10.84	5.06	0.70	5.76	20.87	3.03	23.90
2007	2.35	7.28	9.63	5.08	0.76	5.84	20.20	1.40	21.48
2008	2.26	6.81	9.07	4.69	0.53	5.22	22.31	0.67	22.99
2009	2.00	5.90	7.90	4.00	0.50	4.50	22.00	0.30	22.30
2010	2.10	5.80	7.90	4.40	0.70	5.10	25.00	0.20	25.20
2011	2.30	6.00	8.30	4.60	0.64	5.24	22.90	0.14	23.04
2012	2.47	6.07	8.54	4.90	0.47	5.37	19.54	0.13	19.67
2013	2.43	5.28	7.71	4.76	0.72	5.48	17.56	1.23	18.79
2014	2.42	4.86	7.28	4.99	0.76	5.75	15.72	1.45	17.17

Table 10 - Production of hydrocarbons - Time Series 2004-2014

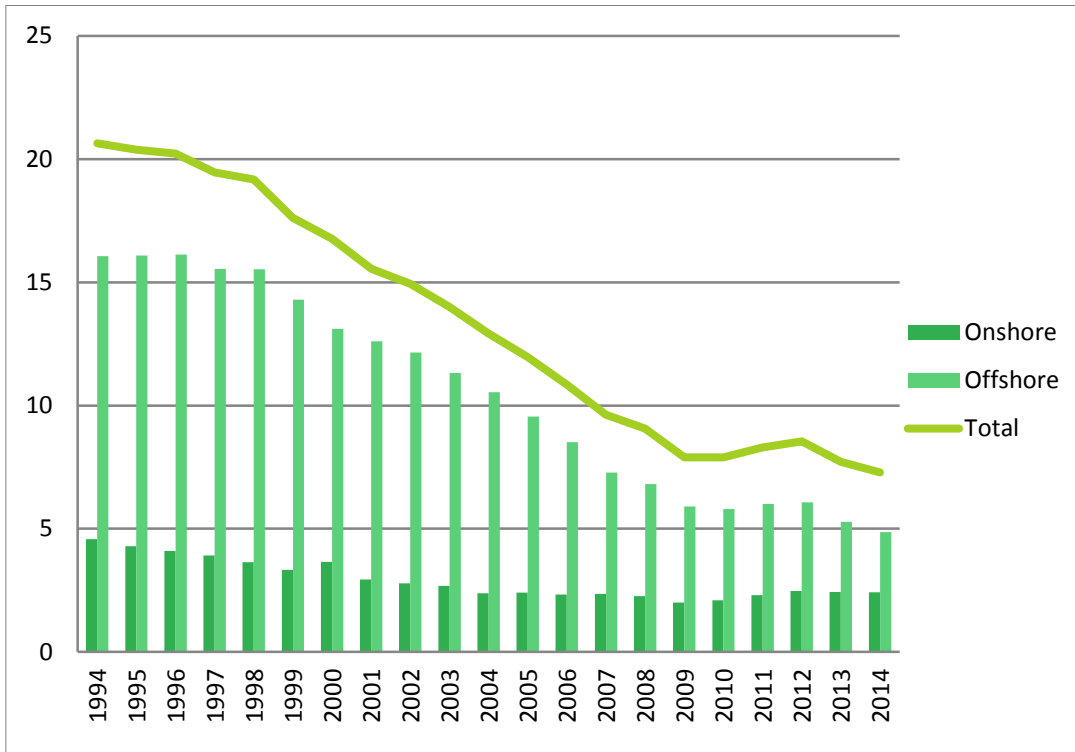


Chart 8 - Production of gas (billion cubic meters) - series years 1994-2014

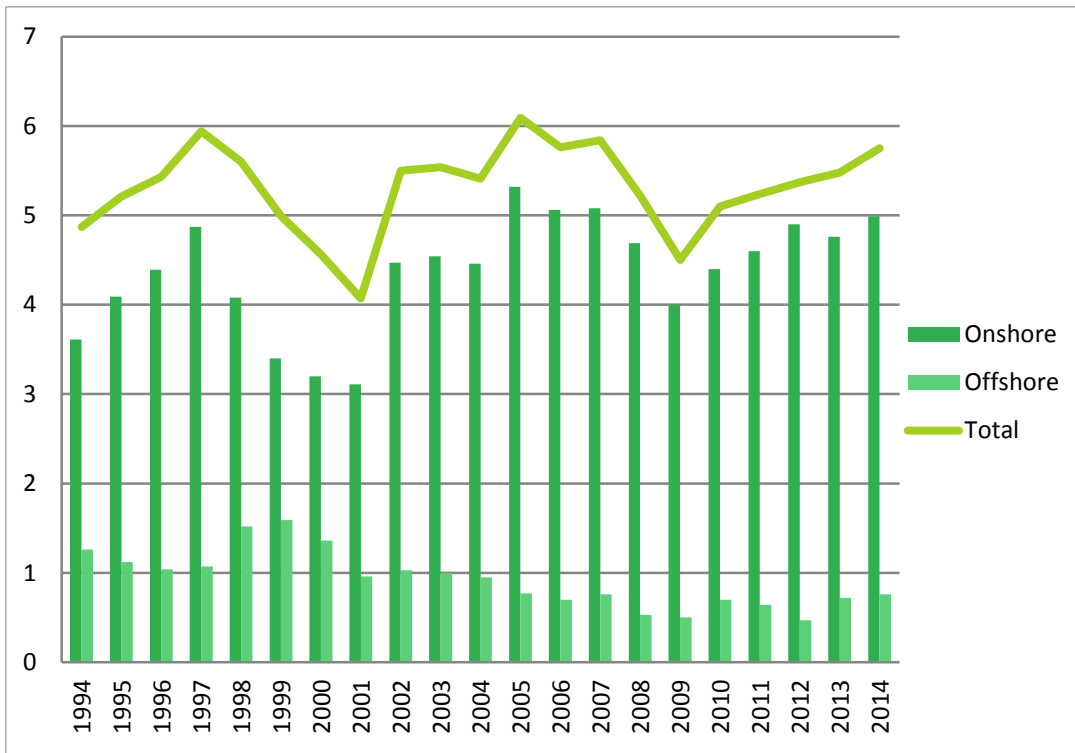


Chart 9 - Oil production (million tons) - Time series years 1994-2014

Natural gas production

As for [natural gas](#), 2014 was characterised by a production of 7.2 billion of Sm³, with an increase, as already mentioned, of 6% compared to 2013 (7.71 billion of Sm³).

The higher part of production, as reported in Table 11 and in Chart 10, derives from offshore licenses (4.86 billion of Sm³ representing 67% of national production - NP), above all from Marine Area B and A (respectively 10% and 46% of the NP). Onshore, the higher part of production (1.47 billion of Sm³) derives from the Basilicata Region (20% of the NP).

Region/Zone	2014	2013	% variation 2014/2013	% on total domestic prod.
Abruzzo	29.60	48.59	-39%	0%
Basilicata	1,471.45	1,270.94	16%	20%
Calabria	8.62	9.06	-5%	0%
Emilia Romagna	225.06	277.40	-19%	3%
Lombardia	21.00	20.43	3%	0%
Marche	56.89	108.46	-48%	1%
Molise	66.17	52.23	27%	1%
Piemonte	14.02	19.77	-29%	0%
Puglia	253.70	270.79	-6%	3%
Sicily	270.60	343.94	-21%	4%
Toscana	3.25	1.17	179%	0%
Veneto	1.92	1.74	10%	0%
TOTAL ONSHORE	2,422.27	2,424.53	0%	33%
Zona A	3,336.80	3,633.02	-8%	46%
Zona B	755.43	812.43	-7%	10%
Zona C	3.83	16.45	-77%	0%
Zona D	733.93	791.98	-7%	10%
Zona F	33.43	30.27	10%	0%
TOTAL OFFSHORE	4,863.43	5,284.16	-8%	67%
TOTAL	7,285.71	7,708.69	-5%	100%

Table 11 - Production of gas in 2014 by region/marine area [Sm³*10⁶]

Oil production

As for the oil, in 2014 there was a production of 5.75 million tons, with an increase of 2% compared to 2013 (5.48 million tonnes), as already mentioned.

As reported in Table 12 and in Chart 11, most of the production comes from onshore licenses (4.99 million tons equal to 87% of national production - NP), located especially in Basilicata (69% NP) and Sicily (16% NP).

Region/Zone	2014	2013	% variation 2014/2013	% on total NP
Basilicata	3,978.72	3,940.46	1%	69%
Emilia Romagna	22.93	25.60	-10%	0%
Lazio	0.06	0.25	-76%	0%
Molise	10.18	4.76	114%	0%
Piemonte	48.64	73.25	-34%	1%
Sicily	933.13	714.22	31%	16%
TOTAL ONSHORE	4,993.65	4,758.54	5%	87%
Zone B	294.31	221.31	33%	5%
Zone C	232.37	301.47	-23%	4%
Zone F	227.43	201.45	13%	4%
TOTAL OFFSHORE	754.12	724.23	4%	13%
TOTAL	5,747.77	5,482.77	5%	100%

Table 12 - Production of oil in 2014 by region/marine area [t*10³]

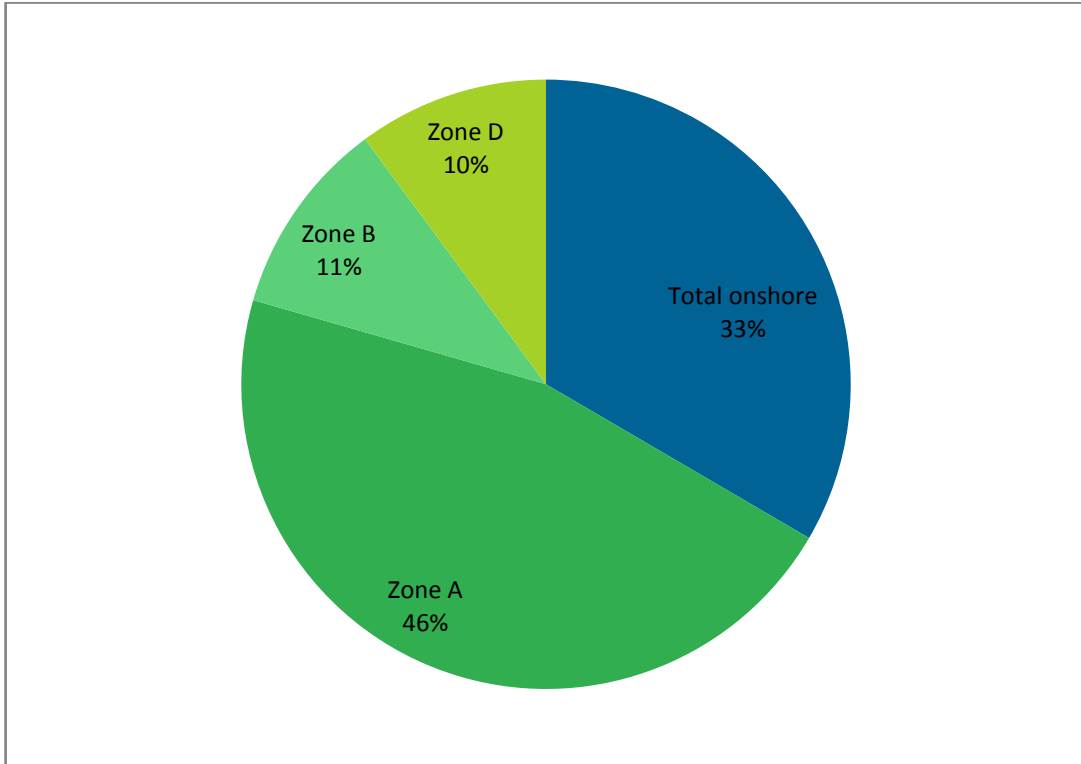


Chart 10 - Natural gas production by area - Year 2014

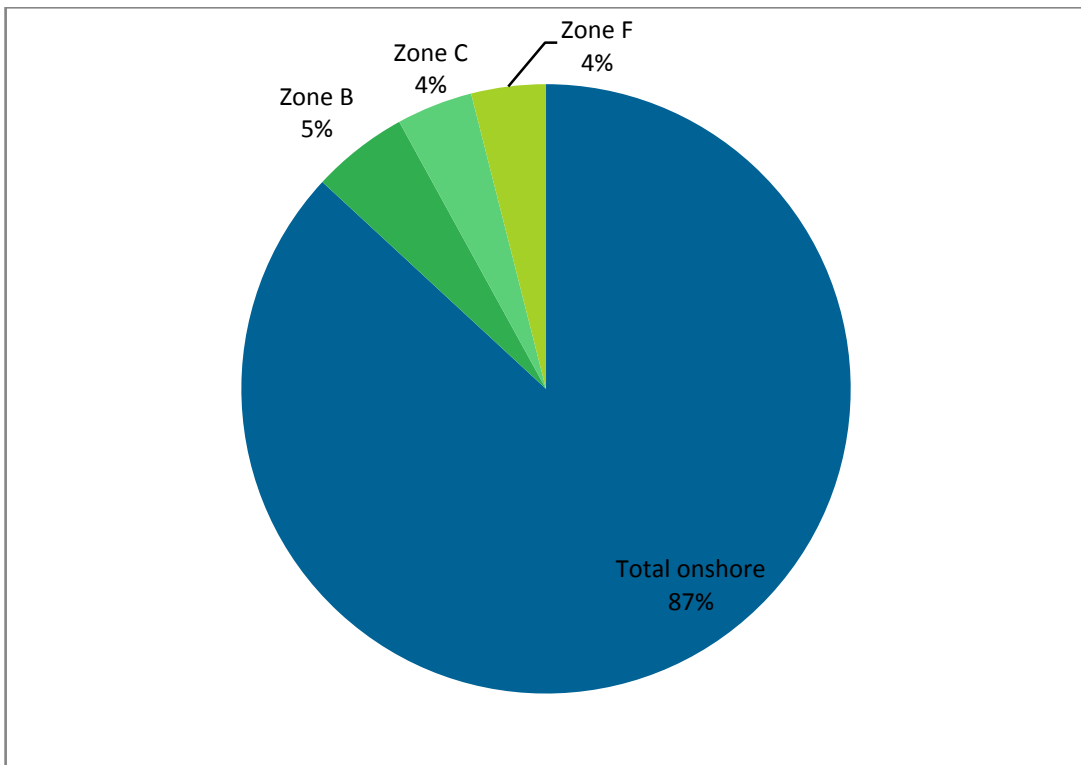


Chart 11 - Production of crude oil by area - Year 2014

Production plants

In the 201 production licenses there are 894 productive wells, of which 695 are gas wells, 199 oil wells, 532 are onshore and 362 offshore. In Table 13 is possible to see the number of gas and oil well divided by region and marine area.

Produced hydrocarbons are sent to 78 (gas) and 14 (oil) treatment and collection plant. Table 14 shows the number of gas and oil plants for each Region.

	GAS	OIL	TOTAL
ABRUZZO	3	0	3
BASILICATA	8	29	37
CALABRIA	8	0	8
EMILIA ROMAGNA	192	4	196
LOMBARDIA	9	0	9
LAZIO	0	14	14
MARCHE	18	2	20
MOLISE	17	7	24
PUGLIA	45	0	45
PIEMONTE	0	4	4
SICILY	45	83	128
TOSCANA	43	0	43
VENETO	1	0	1
TOTAL ONSHORE	389	143	532
ZONA A	230	0	230
ZONA B	48	32	80
ZONA C	0	22	22
ZONA D	28	0	28
ZONA F	0	2	2
TOTALE OFFSHORE	306	56	362
TOTAL	695	199	894

Table 13 – Wells sorted by Region/marine zone. Year 2014

In the Italian offshore, 133 offshore plants are installed and, according to their typology and utilisation, they are divide into:

- 106 production platforms with 83 producing wells;
- 11 subsea wellheads, of which 3 producing wells;
- 8 platforms for supporting production (compression or connection);
- 8 not operating systems (discoveries effected in exploration licenses currently waiting for the production license).

	GAS	OIL	TOTAL
ABRUZZO	6	0	6
BASILICATA	7	2	9
CALABRIA	2	0	2
EMILIA ROMAGNA	25	1	26
LAZIO	0	1	1
LOMBARDIA	8	1	9
MARCHE	16	1	17
MOLISE	2	2	4
PIEMONTE	0	1	1
PUGLIA	3	0	3
SICILY	5	5	10
TOSCANA	2	0	2
VENETO	2	0	2
TOTAL	78	14	92

Table 14 – Collection and treatment plants. Year 2014

MARINE AREAS	GAS	OIL	TOTAL
Zone A	74	0	74
Zone B	36	6	42
Zone C	0	5	5
Zone D	5	0	5
Zone F	1	2	3
Zone G	4	0	4
TOTAL	120	13	133

Table 15 – Marine facilities sorted by marine area . Year 2014

TPOLOGY	GAS	OIL	TOTAL
monotubular	21	1	22
bitubolar	3	0	3
cluster	8	0	8
reticular structure	77	10	87
Subsea wellhead	11	2	13
TOTAL	120	13	133

Table 16 – Marine facilities sorted by typology. Year 2014

Part of the offshore crude oil production is transported by pipelines to the 3 onshore oil treatment plants «MARIA A MARE», «CENTRO RACCOLTA OLIO PERLA E PREZIOSO», «TERZO CENTRO OLIO GELA». The remaining offshore oil production is not transported by pipeline but it is temporarily stored by means of a FSO/ FPSO unit (floating, production, storage and offloading⁶).

In Italy, operative FSO are «ALBA MARINA» in the Rospo field (license B.C 8.LF), «FIRENZE FPSO» in the field Aquila (license F.C 2.AG) and «LEONIS» in the Vega field (license C.C 6.EO).

The complete list of [producing well](#), [treatment and collection plant](#) and [offshore facilities](#) is published in the DGRME website.

⁶ They are floating systems of production, storage and offloading, composed by big oil tanker that can contain also treatment installations. They are bow moored vessels keeping a geostationary position. The oil produced from the platforms or from the subsea wellhead is transported on board by risers to be temporarily stored and, at the end, offloaded and transported onshore.

Reserves

The reserves data at December 31st, 2014 subdivided in proved⁷, probable⁸ e possible⁹, according to the International Classification, show an increase of about 9.8% for gas and approximately 14.6% for oil, with respect to the figure at 2013, December 31st, after subtracting the production obtained in 2014.

With regard to the location of proved reserves, 59% of the total national gas is located offshore, in particular 40% in zone A, while oil reserves are located for nearly 90% onshore, and for the most part in Basilicata (Chart 12 and Chart 13).

In the current paragraph, onshore reserves are classified by Region of belonging in Northern, Central and Southern Italy.¹⁰

GAS (Milion Sm ³)				
	Proved	Probable	Possible	% Proved
Northern Italy	2,463	2,352	26	4.7%
Central Italy	526	1,379	397	1.3%
Southern Italy	19,993	22,015	10,714	32.1%
Sicily	1,302	1,043	643	2.9%
Total ONSHORE	24,284	26,790	11,781	41.0%
Zone A	2,251	14,344	7,659	40.0%
Zone B	5,342	5,951	2,494	10.7%
Zone C+D+F+G	3,836	12,691	2,447	8.2%
Total OFFSHORE	29,429	32,985	12,600	59.0%
TOTAL	53,713	59,774	24,381	100.0%

Table 17 - NATURAL GAS Reserves at December 31st, 2014

⁷ Proved reserves are those estimated quantities of hydrocarbons which, on the basis of geological and reservoir engineering data available, can with reasonable certainty (probability greater than 90%) be commercially recoverable, under the technical, contractual, economic and operating conditions existing at the moment considered.

⁸ Probable reserves are those quantities of hydrocarbons which on the basis of geological and reservoir engineering data available, can be recovered with reasonable probability (greater than 50%), under the technical, contractual, economic and operating conditions existing at the moment considered; the elements of residual uncertainty may be related to the extension or other reservoir features (mining risk), the economics (at the conditions of the development project), the existence or suitability of the transportation system or selling market.

⁹ Possible reserves are the quantities that are estimated to be recoverable with a significantly lower probability (largely below 50%) with respect to probable reserves, or which present worse economics with respect to the established limit.

¹⁰ Northern Italy includes Val d'Aosta, Piemonte, Liguria, Lombardia, Trentino-Alto Adige, Veneto, Friuli Venezia Giulia, Emilia-Romagna Region; Central Italy includes Toscana, Umbria, Marche, Lazio, Abruzzo e Molise; Southern Italy includes Campania, Puglia, Basilicata e Calabria. Sicily is indicated separately while in Sardinia Region there is no hydrocarbon reserves.

OIL (t*10 ³)				
	Proved	Probable	Possible	% Proved
Northern Italy	268	236	-	0.6%
Central Italy	65	2,737	809	0.1%
Southern Italy	70,722	81,948	51,393	81.5%
Sicily	6,138	5,391	3,631	7.5%
Total ONSHORE	77,193	90,312	55,833	89.7%
Zone B	3,374	777	-	4.3%
Zone C	4,103	1,451	238	5.6%
Zone F	137	550	-	0.4%
Total OFFSHORE	7,614	2,778	238	10.3%
TOTAL	84,807	93,090	56,071	100.0%

Table 18 - OIL Reserves at December 31st, 2014

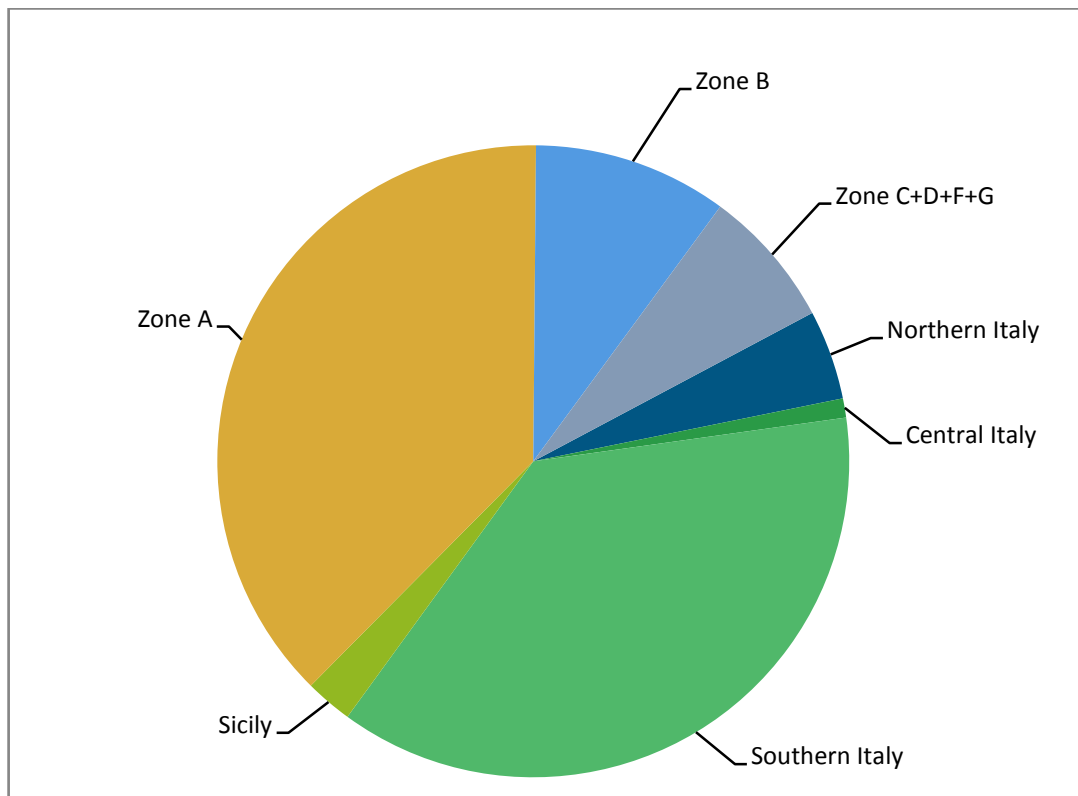


Chart 12 - Proved reserves of GAS by region / marine zone at December 31st, 2014

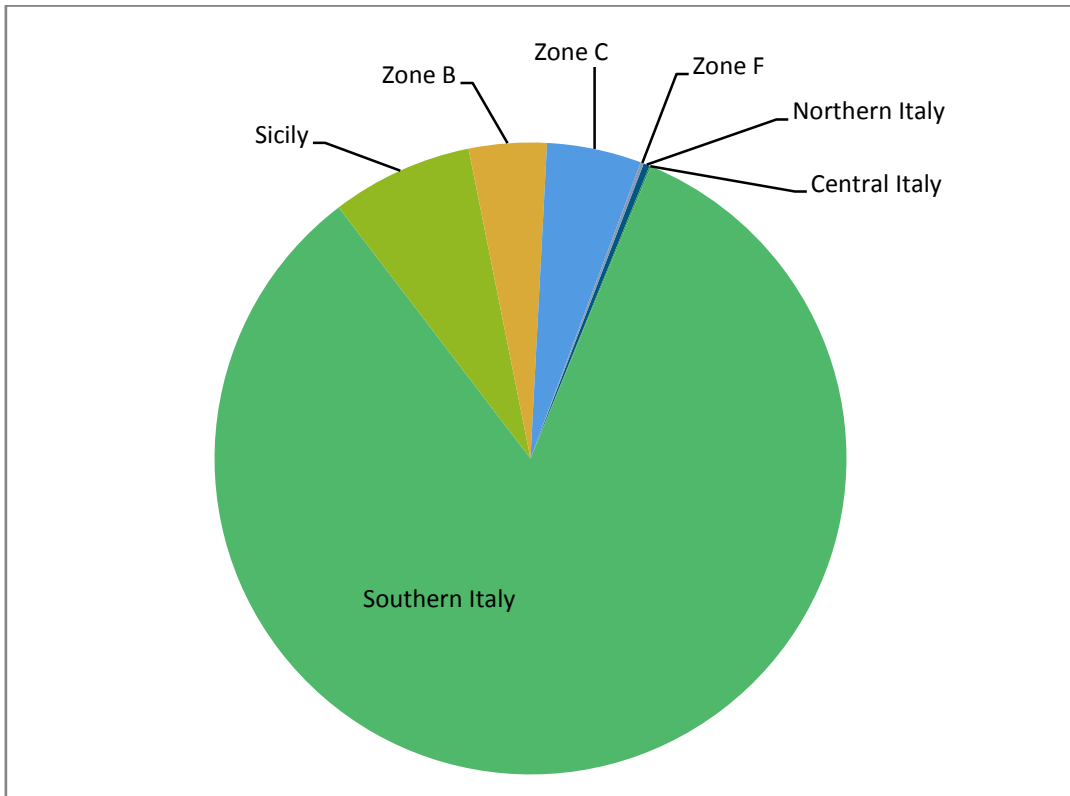


Chart 13 - Proved reserves of OIL by region / marine zone at December 31st, 2014

In addition to reserves already discovered, for which it is possible to have reliable estimations (as indicate in previous charts and tables), in the Italian underground there are further hydrocarbon resources to be discovered that, unfortunately, it is impossible to quantify because of the absence of exploration activities. In fact, the quite total absence in the last 5 years of new research activities, besides threatening the substitution of consumed reserves, does not allow to improve knowledge about the hydrocarbon potential of our Country, deemed still significant and able to grant, in presence of a new start of research and development activities blocked in the last years, the accomplishment of the SEN objectives.

Royalties and Hydrocarbons Bonus

In Italy, hydrocarbons deposits are a public patrimony (art. 826 of c.c). Private Companies that, after the awarding of a production license, put in place operations to produce hydrocarbon pay royalties connected to such productions to State, Regions and interested Municipalities.

Royalties calculation is based on market prices of oil and gas. As for gas, its valorization cannot be lower than the QE value (index of the energy cost of the gas raw material defined by the Italian Regulatory Authority for Electricity Gas and Water), expressed in €/GJ and calculated for each quarter of the year.

In the year 2013, liquid hydrocarbons were valorised at the average price of the crude extracted from each license, on the basis of the direct sales of the crude produced, or referring to the prices of similar crudes on the international market, taking into account the differentials of production yields; for gas production, the quantities allocated to the State were sold by the GME (Energy Markets Operator), via a dedicated platform reserved to production quota for the payment of royalties, to which the operators of the natural gas market have access.

The offer did not get bids at the minimum price put for the sale. This price was equal to the QE 2012 (index of the energy cost of the gas raw material defined by the Authority in 2012), which proved to be too high for the gas quantities offered, even in the colder months (October-March). In this case, the sector regulation establishes that the same operators that put the gas on the market for royalty purposes shall retain the unsold lots for themselves and correspond to the State the QE value for those quantities.

The final data of the royalty revenues are shown in Chart 14, split by recipient and including any payments made for specific law purposes (Fund for the reduction of the fuel price, pursuant to art. 45 of [Law 23 July 2009, no. 99](#); Quota for the protection of the marine environment and the safety of offshore facilities, ex art. 35 of [Decree Law 22 June 2012, no. 83](#)). It is worth underlining that the production quota that operators correspond to the State, the Regions and the Municipalities is determined only by the quantities in excess of a certain production threshold in each license, and that in year 2014, operators paid fees for the sale of production quota of 2013, and also for the sale of the remaining production quota of 2012.

The total amounts paid during year 2014 were about 402 million euro. These data are on the DGRME website, together with the royalty revenues from the previous years, starting from 2008. <http://unmig.mise.gov.it/unmig/royalties/2014/2014.asp>

Recipients	Proceeds (€)
State	70,687,307.24
Regions	182,414,623.83
Municipalities	29,196,155.25
Fund for Fuel Price Reduction	85,629,330.74
Safety and Environment quota	33,987,587.59
Total	401,915,004.65

Table 19 – Proceeds from royalties in 2014 by recipients

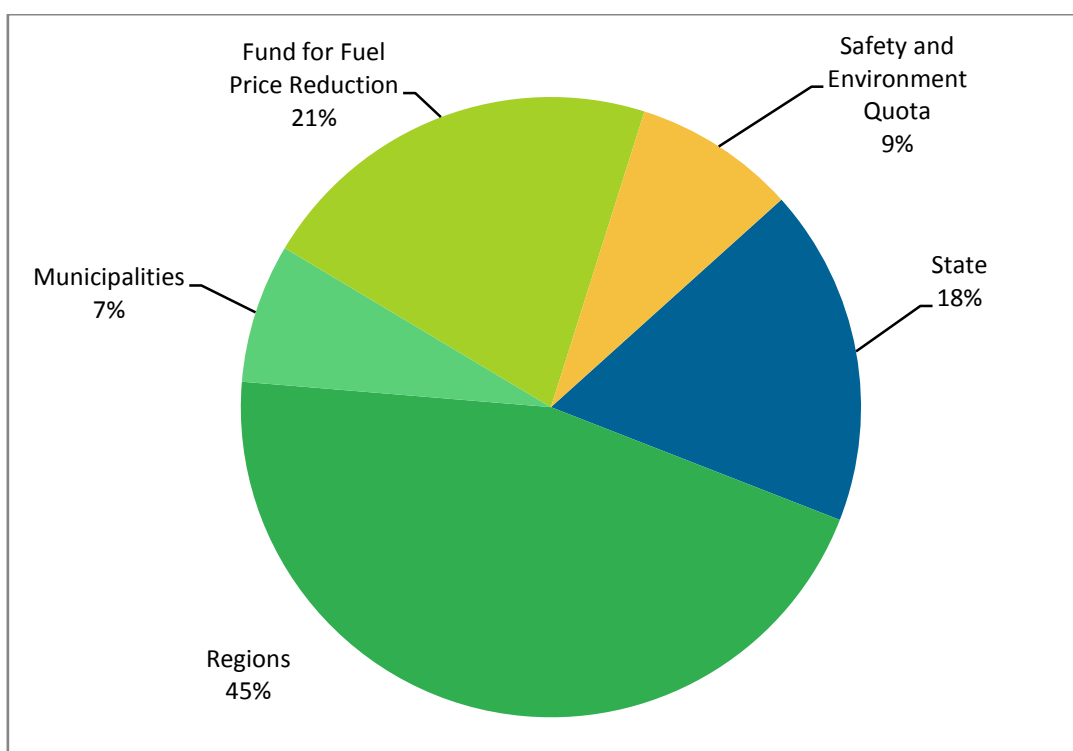


Chart 14 - Proceeds from royalties in 2014 by recipients ¹¹

Among the published data it is possible to find those related to the increase of 3% of the royalty rate (~85,6 M€). This is the amount that the holders of onshore production licenses paid to the Fund for the reduction of the retail fuel price, allocated to residents in the Regions concerned by mining activities, as established by the Law of July 23rd, 2009 no. 99.

¹¹ For more detail, it is necessary to consider that the Fund for the reduction of the retail fuel price is allocated to residents of Regions concerned by mining activities and the Quota for the protection of the marine environment and the safety of offshore facilities is allocated to Ministry of Environment and Ministry of Economic Development.

During 2014, with art. 36, paragraph 2-bis, point a) of the Decree Law September 12th, 2014, no. 133, amended by Law November 11th, 2014 no. 164, the part of the art. 45 of the Law July 23rd, 2009 no. 99 laying down "Disposition for the promotion of measures of economic development and activation of a social card in Region interested by hydrocarbon production was substituted. The new regulation has substituted the old one that foresaw the distribution to all residents of Regions interested by hydrocarbon production, according to the procedures indicated in the Inter-ministerial Decree of August 7th, 2014. After the issuing of the regulation, in order to distribute the Fund made for the production of 2013 (5th distribution), procedures of utilization are under definition, in agreement with Presidents of interested Regions.

During 2014, shares of the Fund for the reduction of the retail fuel price were assigned to Abruzzo, Calabria, Emilia-Romagna, Lazio, Liguria, Lombardia, Marche, Molise, Piemonte, Puglia, Toscana and Veneto Regions.

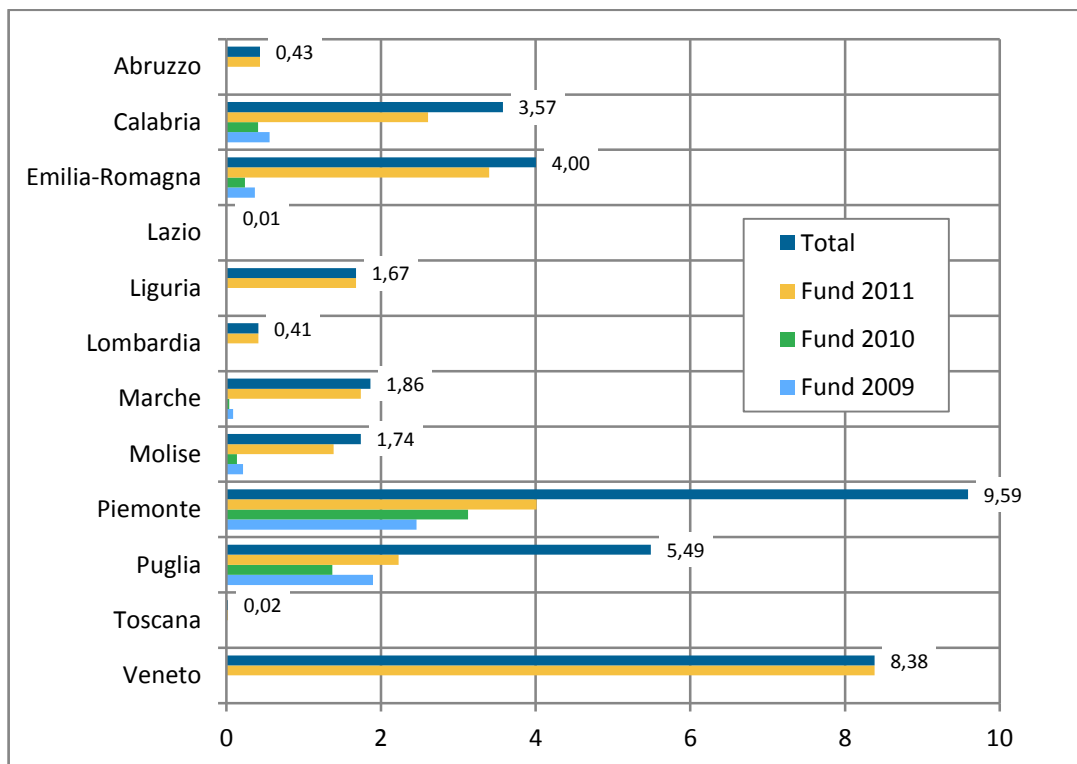


Chart 15 - Imports in millions of euro concerning the distribution of the Fund for reduction of the retail fuel price, for period 2009-2011 for Regions that does not reach the minimal limit for the direct distribution to residents (30€ per capita). Amounts transferred to residents of Basilicata, not reported because off the charts, were about 134 millions of euro.

Chart 15 shows the data pertaining to the Funds for the reduction of fuel prices collected in the period 2009-2012, on the basis of Law no. 99/2009.

In January 2015, using the 2011 Fund, 330 000 bonus were distributed to Basilicata Region residents for a total amount of 52.6 Million of €.

In the website of the Directorate-General are published also the payments made by holders of offshore license for the 3% increase of royalty rate (~34 M€), pursuant to article 35 of Decree Law June 22nd, 2012 no. 83.

The relative amounts were entirely paid to the State and allocated for 50% to the Ministry of the Environment and the Protection of Land and Sea, in order to ensure full implementation of the monitoring and counteracting of marine pollution and, for the remaining 50%, to the Ministry of Economic Development, to ensure the full performance of the activities of supervision and of safety and environmental control on the offshore exploration and production plants (see Chapter 'Environment and safety').

Finally, Table 20 and Chart 16 show the list of upstream operators that paid royalties for the production of liquid and gaseous hydrocarbons, and the proportion of the relative share paid in 2014.

Operators	Proceeds (€)
Eni	258,798,985.49
Shell Italia E&P	106,768,469.00
Ionica Gas	19,373,546.39
Edison	10,188,864.00
Adriatica Idrocarburi	2,877,159.80
Eni Mediterranea Idrocarburi	2,254,945.57
Gas Plus Italiana	889,335.03
Medoigas Italia	229,068.80
Padana Energia	534,630.57
Total Royalties 2014	401,915,004.65

Table 20 - Royalties paid in year 2014 by oil company

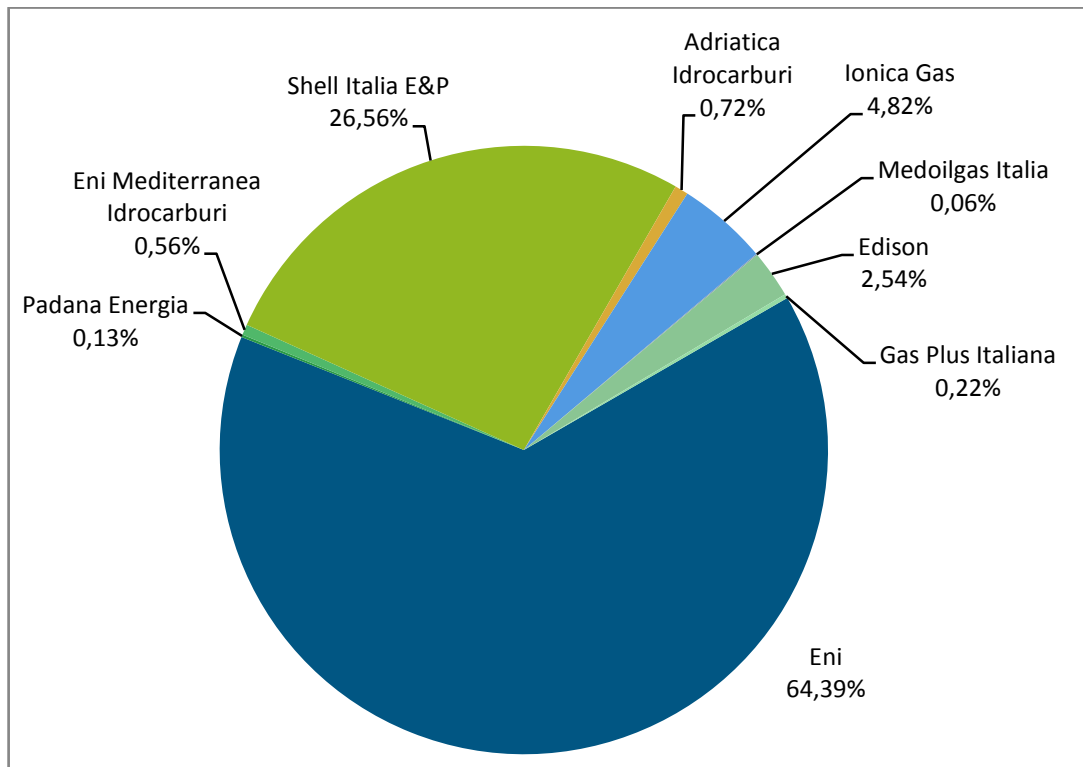


Chart 16 - Royalties paid in year 2014 by oil company

ViDEPI Project Updating

The [ViDEPI Project](#), “Visibility of data pertaining to the oil and gas exploration activity in Italy”, was created with the objective to make the technical documents and data relating to oil and gas exploration in Italy easily accessible to the public. The available documents concern only mining titles that have been terminated (these documents in fact become public a year after the termination of the title) and were filed as of 1957 at the Ministry of Economic Development.

The project, made possible thanks to the collaboration between the [Italian Geological Society](#) (SGI), the Ministry of Economic Development and [Assomineraria](#), consisted of an initial collection of the documentation, subsequent classification, scanning and geo-referencing, and finally the publication of the documents on the web.

The paper documents retrieved and processed, were entrusted to the [Library of the scientific and technological area of Roma Tre University \(BAST\)](#).

Published data (for a total of about 25 Gb), updated at December 31st, 2014:

- ❖ 1,625 sets of closed mining titles;
- ❖ 4,223 technical reports and relative annexes (6,852 Annexes)
- ❖ 2,299 well final profiles;
- ❖ 578 lines of recognition seismic;
- ❖ 2,396 seismic lines acquired within mining titles.

The project, started in 2005, was completed in October 2009 with the publication of data updated at December 31st, 2007.

In the years following the closure of the project, further documentation was made available as a consequence of the cessation of new mining titles. All the paper documents were collected and transferred to the Library of scientific and technological area, where they can now be consulted.

During 2014, the Project updating was continued. All the material related to [2010-2014 updating](#) was scanned, classified, and integrated in the Project database.

The documents in .pdf format of 39 mining titles that were closed in the period 2008-2013 were published and the data were geo-referred. Seismic lines of [CROP ATLAS Project](#) were added and a summary of 2,396 [seismic lines acquired within mining titles](#) was added too.

The graphic interface of the website was updated as well as the web surfing menu. The research toolbar was added. [The Google plug-in](#) was updated and the [ESRI ArcGIS Online](#) page was created.

Natural gas storage

The underground natural gas storage is a process that allows the re-injection of gas into the porous rock of a depleted reservoir that contained it, bringing it back, to a certain extent, to its original state. Storage is needed to respond in real time to the requests of the gas market, to allow to manage the production facilities and transportation with adequate margins of flexibility and, above all, to deal with situations of lack or reduction of supply, or crisis of the gas system (for example in the case of very harsh weather conditions or disruption of supply from foreign countries).

Storage is subdivided in three typologies:

- ❖ strategic;
- ❖ mineral;
- ❖ commercial.

The strategic storage is required to overcome any emergency situation, such as disruption or slowdown of imports, exceptional weather conditions, etc.. The second one allows producers to ensure a gas supply continuity to the network even in case of plants unavailability due to maintenance operation. The last one is the share available to the market to balance the users daily imports.

Starting from 2013/2014 storage contractual period, the commercial part of the storage capacity is assigned by auction procedures (art. 14 of [Decree Law January 24th, 2012 no. 1](#)) and no more to all importer in a proportional way. Such effect is shown in Chart 17 where it is possible to see the effects on allocations of a low differential in the summer-winter gas price in the 2013/2014 gas year.

During the 2013/2014 winter, the gas storage contributed to supply the national system with 6.6 billions of standard cubic meters (considering the end of injection campaign on October 31st, 2013 and the remaining volumes on March 31st, 2014), covering of a clear crucial role for Italian market supply.

Moreover, on the base of natural gas stored volumes, the Technical Committee for Emergency and Monitoring designs and analyses hypothetical disruption scenarios together with possible measures needed to handle such disruptions. The Committee meets usually 3 times a year to monitor Italian gas system activities.

DGRME participates to the Technical Committee for Emergency and Monitoring, headed by the Director General for Security of Supply and Energy Infrastructures, with the aim, among the others, to plan the withdrawal scenarios and foreseen possible modifications during the injection campaign (between April 1st and October 31st).

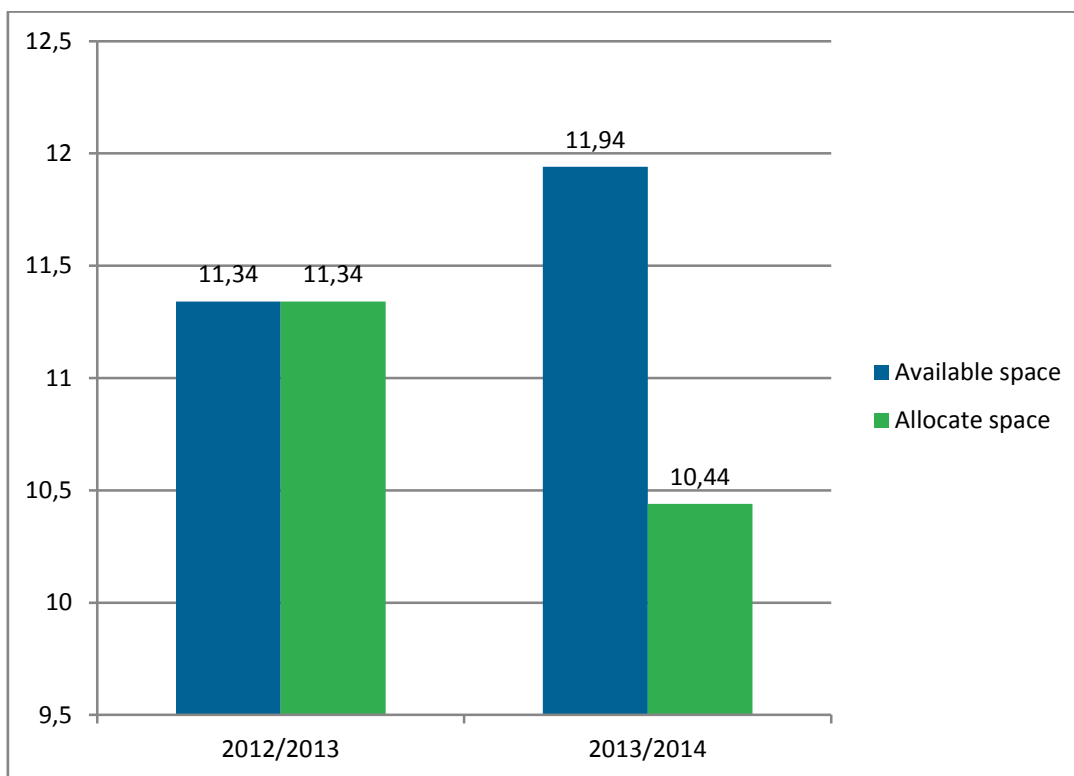


Chart 17 - Comparison between available and allocate space. Contractual storage period 2012/2013 and 2013/2014

Capacity and performance for the year 2014

Italy is the second UE Country for storage volume, with a maximum withdrawal capacity of 290 million standard cubic meters per day and an injection capacity of 136 million standard cubic meters per day. The available working gas¹² for the storage contractual period 2013/2014 (April 1st, 2013 –March 31st, 2014) is 16,538 million standard cubic meters, with an increase of 0.66% with respect to the previous year. 4,600 millions of Smc were reserved to strategic storage.

The numbers of storage fields and of licenses in force in Italy in 2014 are the same as in 2013. In fact, no new license was granted, nor new site has been addressed for operation.

There are 10 active storage fields in Italy, 8 of which operated by Stogit, and 2 operated by Edison Stoccaggio. All of them are realized in depleted gas fields, while 15 are [the licenses in force](#).

¹² Working Gas is the amount of natural gas that can be withdrawn or injected according to the market demand; it is not the entire gas present in the reservoir, as a part of it cannot be withdrawn in order to maintain an adequate minimum operating pressure. The use of such quantities of gas is set out by Decree of the Ministry of Economic Development, as required by D.Lgs.164/2000 and related implementation Decrees.

Empowering process of the national system connected to Legislative Decree no. 130/2010 contributed, in favour of industrial customers, to increase the capacity of the system (2,642 million of standard cubic meters) and ended according to the results of the Law Decree no. 145/2013.

EU Country	Million Sm ³
Germany	22,245.00
Italy	16,538.00
France	12,965.00
Austria	8,166.00
Hungary	6,330.00
The Netherlands	5,378.00
UK	4,923.00
Spain	4,103.00
Czech Republic	3,497.00
Slovakia	3,135.00
Romania	3,100.00
Poland	2,524.00
Latvia	2,320.00
Denmark	998.00
Belgium	700.00
Croatia	553.00
Bulgaria	550.00
Portugal	239.00
Sweden	9.00
Total	98,273.00

Table 21 - Storage capacity of EU Countries. Year 2014- source: Gas Storage Europe

There are ongoing proceedings for the issuance of six new licenses and for the expansion of existing ones.

On December 9th, 2014 the first 10 year extension has been issued for the license of [CELLINO STOCCAGGIO](#).

Finally, the new underground gas storage plant of [BORDOLANO STOCCAGGIO](#) with the related wells is still in progress and the works will be concluded in 2016, to further improve the safety level of the system.

In the following Table 22, the 15 licenses of natural gas storage in force at December 31st, 2014 are listed.

No	License	Operators	Province	Issuing date
1	ALFONSINE STOCCAGGIO*	STOCCAGGI GAS ITALIA	Ravenna	01/01/1997
2	BORDOLANO STOCCAGGIO*	STOCCAGGI GAS ITALIA	Brescia Cremona	11/06/2001
3	BRUGHERIO STOCCAGGIO	STOCCAGGI GAS ITALIA	Milano	01/01/1997
4	CELLINO STOCCAGGIO	EDISON STOCCAGGIO	Teramo	12/10/1984
5	COLLALTO STOCCAGGIO	EDISON STOCCAGGIO	Treviso	06/16/1994
6	CORNEGLIANO STOCCAGGIO*	ITAL GAS STORAGE	Lodi	03/15/2011
7	CORTEMAGGIORE STOCCAGGIO	STOCCAGGI GAS ITALIA	Piacenza Parma	01/01/1997
8	CUGNO LE MACINE STOCCAGGIO*	GEOGASTOCK	Matera	08/02/2012
9	FIUME TRESTE STOCCAGGIO	STOCCAGGI GAS ITALIA	Campobasso Chieti	06/21/1982
10	MINERBIO STOCCAGGIO	STOCCAGGI GAS ITALIA	Bologna	01/01/1997
11	RIPALTA STOCCAGGIO	STOCCAGGI GAS ITALIA	Cremona	01/01/1997
12	SABBIONCELLO STOCCAGGIO	STOCCAGGI GAS ITALIA	Ferrara	01/01/1997
13	SAN POTITO E COTIGNOLA STOCCAGGIO*	EDISON STOCCAGGIO BLUGAS INFRASTRUTTURE	Ravenna	04/24/2009
14	SERGNANO STOCCAGGIO	STOCCAGGI GAS ITALIA	Bergamo Cremona	01/01/1997
15	SETTALA STOCCAGGIO	STOCCAGGI GAS ITALIA	Lodi Milano	01/01/1997

Table 22 – Natural gas license in force on December 31st, 2014

*Natural gas licenses not in force

On December 31st, 2014 359 wells utilised for storage were actives as well as 99 monitoring wells and other 51 wells of production and other utilisation. The [well list](#) is published on the DGRME website.

Other information are also available on [storage licenses](#), on [storage license application](#) and on [gas storage plants](#).

ENVIRONMENT AND SAFETY

With regard to the issues concerning the health and safety of workers and the preservation and protection of the environment, the Directorate-General has a very important role, as through its central offices, the UNMIG Sections and the chemical and mineralogical Laboratories.

It supervises the proper execution of the works and the compliance with the safety standards in the workplace in the entire sector of hydrocarbons prospecting, exploration and production, including offshore activities.

Specifically with reference to offshore activities, the Technical Table for the national transposition of Directive 2013/30/EU was established at the DGRME. The Table completed its works on June 30th, 2014 earlier than the deadline of July 2015.

As part of the check and inspection activities, additional control campaigns and surveys were carried out by the Directorate-General, together with the regular activities performed by UNMIG Sections and the Laboratories, which required the joint action of the Divisions and/or the cooperation with other Directorate-Generals of the Ministry and other bodies.

UNMIG Sections - Bologna, Rome and Naples

UNMIG Sections (Divisions II, III and IV, as said) are responsible for carrying out verifications and controls of the installations safety, for the prevention of accidents, the safety and health of workers, both onshore and offshore. They perform the technical and administrative management of activities within the exploration and prospecting licenses, exploitation licenses and storage of hydrocarbons and natural gas.

Surveillance

During the year 2014, the following inspections were carried out by the UNMIG Sections:

- ❖ 282 production inspections, which allowed the verification of hydrocarbons productions obtained in the licenses also with the aim to assess the royalties proceeds;
- ❖ 5369 verifications of pressure equipment, lifting equipment, grounding equipment;
- ❖ 507 inspections of drilling rigs/production rigs (with an increase of 100% compared to 181 inspections carried out during the year 2012);
- ❖ 67 inspections for other purposes (e.g. public utility, urgency occupation, wire lines, injuries, etc.).

	Production Inspections	Checks of equipment systems and plants	Inspections of drilling rigs and production rigs	Public Utility and emergency occupancy	Wire lines, injuries, other
January	24	321	23	0	9
February	20	345	41	0	4
March	14	417	35	0	9
April	19	450	57	0	1
May	20	384	73	0	7
June	39	532	52	2	7
July	12	414	41	1	4
August	13	577	12	0	2
September	38	562	48	0	5
October	35	518	44	0	7
November	9	538	47	0	6
December	39	311	34	1	2
Total	282	5,369	507	4	63

Table 23 - Inspection activity year 2014

Authorizations

During the year 2014, the UNMIG Sections granted the following authorizations:

- ❖ 34 authorizations for geophysical activity;
- ❖ 92 authorizations for drilling of new wells (17 authorizations to drill new wells, 14 authorizations for shut off and the other are other type or authorizations for work-over on existing wells);
- ❖ 108 authorizations for the start of the works on existing installations;
- ❖ 107 authorizations for operation of new installations;
- ❖ 460 authorizations of other type.

As an example, it should be noted that the authorization to the drilling of new wells, in addition to the evaluation of the technical aspects of operations, involves:

- ❖ management of the Conference of Services in which the opinions of other authorities concerned are acquired (Region, Municipalities, other agencies);
- ❖ participation at the works of the Regional Technical Committees (CTR) for the assessment of storage projects involved in the Seveso Law.

	Geophysical Activity	Drilling	Works on Plants	Operation of Plants	Miscellanea
January	4	7	9	14	45
February	7	8	9	10	45
March	5	9	6	19	51
April	0	3	3	15	36
May	1	9	25	8	14
June	0	9	6	12	18
July	5	7	13	26	45
August	0	7	8	9	17
September	1	9	3	13	31
October	8	9	13	13	42
November	2	10	6	15	38
December	1	5	7	16	79
Total	34	92	108	170	461

Table 24 - Authorizations granted in year 2013

Injuries

In relation to the activities of exploration, exploitation and storage of hydrocarbons (with the exception of onshore Sicily), there were a total amount of 20 injuries¹³ in 2014 and no fatalities. Among the occurred injuries, 25% is classified as serious (with prognosis of more than 30 days) and 75% of slight entity. Compared to the previous year, in 2014 the figure shows 4 additional injuries, all mild, while the number of the serious ones is not changed.

Among the 20 injuries, 15 happened in the execution of oil and gas activities, the remaining 5, all minor¹⁴, were not strictly related to O&G operations but they were duly reported to the UNMIG Offices because they occurred in mining areas or during the way from house to work place (as required by law).

	Mild	Serious	Total
Onshore	5	5	10
Offshore	10	0	10
Total	15	5	20

Table 25 - Injuries 2014. Classification according to severity and place (onshore/offshore)

¹³ Throughout the section, the term "injury" means an injury that is relevant for statistical purposes, which resulted in an absence from work for more than 3 days.

¹⁴ Among the 5 injuries which were not related to oil and gas operations, 4 took place on the offshore platforms and 1 onshore.

In offshore activities, 10 injuries were recorded, all mild. The number of injuries is the same in onshore activities; among them, 3 injuries took place in storage sites (2 mild and 1 severe); in onshore operations, the total number of serious injuries amounted to 5.

Considering the total number of reported injuries (equal to 20) and the total number of worked hours (equal to 12,963,569), in 2014 the recorded LTIF¹⁵ (Lost Time Injury Frequency) was equal to 1.54. This value confirms the trend towards a reduction of the parameter, shown in recent years, with a slight variation compared to data of 2013 (-7%)¹⁶ and a marked decrease compared to 2012 (-61%)¹⁷.

Drilling	1995	2009	2013	2014
Drilled meters	137,565	80,521	46,365	22,391
Occurred injuries	121	24	4	6
Aggregated Index 1 [injuries/m drilled]	8.80 E-04	2.98 E-04	0.86 E-04	2.68 E-04

Table 26 - Injuries 2014. Index 1 (injuries/meters drilled)

Production	1995	2009	2013	2014
Gas [Billions Smc]	20.40	7.90	7.71	7.28
Oil [Millions Ton]	5.20	4.50	5.48	5.75
Total [Millions TEP] (*)	21.52	10.82	11.65	11.57
Occurred injuries	125	27	2	3
Aggregated Index 2 [injuries/millions TEP]	5.81	2.50	0.17	0.26

Table 27 – Injuries 2014.. Index 2 (injuries/million TEP produced).

[*] 1 Mm³ of gas = 800 TEP

Since 2013, we have changed the way to determine the two indexes, taking exclusively into account the injuries which have occurred, respectively, in drilling and production operations. This approach is different than as done in the previous years, when injuries were computed for index determination even if they happened in the production or drilling sites but they were not strictly related to the concerning operations. The exclusion of “unrelated” operations, anyway counted in the LTIF, strengthens the effectiveness of the indexes in order to monitor the injuries in the two key activities of the sector.

¹⁵ According to OGP (International Oil & Gas Producers Association), the LTIF is defined as “*The number of lost time injuries (fatalities + lost work day cases) per 1,000,000 work hours*”, which represents the index of frequency of accidents involving absence from work, calculated with reference to 1 million hours worked.

¹⁶ LTIF 2013 equal to 1,66 (16 injuries per 9.638.033 worked hours)

¹⁷ LTIF 2012 equal to 3,93 (36 injuries per 9.159.503 worked hours)

The methodological change should be taken into due account in comparing the 2014 data both with the previous year values of the indexes (the indexes are now more sensitive to variations) and with the reference figures of year 1995 (the year before the adoption of Legislative Decree 624/96). It must be emphasize how, over the last 20 years, a significant reduction has been recorded in the occurrence of work-related-incidents and in all associated indexes.

The Table 28 below shows the classification of injuries divided by activities. It must be highlight that ,with the exception of the item “other activities”, the highest number of incidents is concentrated in the category of “drilling”.

Activity	Mild	Serious	Total
Pipe Lines	0	0	0
Plants	5	0	5
Installations	0	0	0
Drilling	3	3	6
Production	3	0	3
Diving	0	0	0
Geophysical prospection	0	0	0
Shipping/helicopters	0	0	0
Other activities	4	2	6
Total	15	5	20

Table 28 – Injuries 2014. Classification injuries according to activities.

Slippages, falls and use of equipment are the main causes of injuries as specified in the Table 29 which shows the classification of injuries in relation to triggering causes.

Causes	Mild	Serious	Total
Slippages/ falls	4	1	5
Falls of objects	1	1	2
Machineries	3	2	5
Manipulations of objects	1	0	1
Fires / explosions	1	0	1
Electricity	0	0	0
Dangerous substances	0	0	0
Ionizing radiations	0	0	0
Blowouts	0	0	0
Others	5	1	6
Total	15	5	20

Table 29 – Injuries 2014. Classification by cause of injury

In conclusion, in 2014, despite an increase in the absolute number of injuries compared to the previous year (4 additional mild injuries) there was a slight reduction in the frequency of injuries which is related to the increase in hours worked during the year. The LTIF index provides an overall estimate of the frequency of injuries in the entire sector of exploration, exploitation and storage of hydrocarbons in Italy: the reduction of the value LTIF for 2014 is in line with the trend observed in the recent years. In order to further improve safety performances, actions have to be taken in the intervention areas related to drilling activities, where we have recorded the highest number of injuries.

Chemical and mineralogical Laboratories

Environmental monitoring

Emissions control

During 2014, the control activity of emissions released into the atmosphere by the collection and treatment plants of liquid and gaseous hydrocarbons continued. Two analysis campaigns were carried out for monitoring gaseous effluents emitted from the chimneys of thermal combustor annexed to the hydrocarbons treatment plant in VAL D'AGRI OIL CENTER and one measurement campaign occurred at TRECATE OIL CENTER plant.

Analysis of atmospheric emissions in 9 natural gas processing plant were also carried out, as well as on 4 offshore oil plants. Specifically following controls were carried out:

- ❖ VAL D'AGRI OIL CENTER Plant, company Eni S.p.A.;
- ❖ TRECATE OIL CENTER Plant, company Eni S.p.A.;
- ❖ SERGNANO Plant, company STOGIT S.p.A.;
- ❖ RIPALTA Plant, company STOGIT S.p.A.;
- ❖ CORTEMAGGIORE Plant, company STOGIT S.p.A.;
- ❖ MINERBIO Plant, company STOGIT S.p.A.;
- ❖ FALCONARA Plant, company Eni S.p.A.;
- ❖ CASALBORSETTI Plant, company Eni S.p.A.;
- ❖ RAVENNA MARE Plant, company Eni S.p.A.;
- ❖ RUBICONE Plant, company Eni S.p.A.;
- ❖ PINETO Plant, company Adriatica Idrocarburi SpA.;
- ❖ ROSPO MARE B Oil Plant, company Edison S.p.A.;
- ❖ BARBARA T2 Oil Plant, company Eni S.p.A.;
- ❖ GARIBALDI K Oil Plant, company Eni S.p.A.;
- ❖ CERVIA K Oil plant, company Eni S.p.A.

The result of monitoring activities are available on the website of the DGRME at the link <http://unmig.mise.gov.it/unmig/sicurezza/ambiente.asp>.

Liquid effluents control

Sampling and analysis of liquid effluents (water layer separated from the liquid and gaseous hydrocarbons) were performed from [BARBARA T2](#) oil plant, from VAL D'AGRI OIL CENTER and TRECATE OIL CENTER of the company Eni SpA.

Sampling on BARBARA T2 oil platform and the following analysis of emissions and liquid effluents were conducted as part of the collaboration between the Directorate-General and ISPRA, in order to perform joint controls required by the [Integrated Environmental Authorization](#) for offshore plants as defined by the [Legislative Decree of 3rd April 2006 no. 152](#) and subsequent amendments, art. 29, paragraphs 1 and 3. As part of the AIA controls, Division V and UNMIG technicians of Rome carried out, in September 2014, the ordinary joint control inspection on BARBARA T2 compression platform of Eni SpA, located in the Adriatic Sea, in coordination with ARPAM (Regional Agency for Environmental Protection of Marche) technicians to verify the compliance with the monitoring plan provided by the [Environmental Integrated Authorisation for the plant](#).

As part of the collaboration with the Division III - UNMIG of Rome, sampling and analysis of waste water and soil were carried out from PINETO GAS PLANT of the company Adriatica Idrocarburi SpA.

Furthermore, as required by the UNMIG of Rome and with the purpose to verify the safety for an area near the [STRANGOLAGALLI](#) Oil Permit of the company Pentex Italy, the characterization of soil and water samples was carried out for their disposal.

Gas quality control

During 2014, Division V made the quality control campaign for the natural gas produced and/or stored in the national territory. The molecular composition¹⁸ and the physical properties¹⁹ were determined. Sampling is performed immediately upstream the distribution networks.

Controls were carried out in the following gas production, processing and storage plants:

PRODUCTION AND PROCESSING PLANTS:

- ❖ VAL D'AGRI OIL CENTER, company Eni S.p.A.;
- ❖ RAVENNA MARE, company Eni S.p.A.;
- ❖ CASALBORSETTI, company Eni S.p.A.;
- ❖ RUBICONE, company Eni S.p.A.;
- ❖ FALCONARA, company Eni S.p.A.;
- ❖ PINETO, company Adriatica Idrocarburi SpA..

¹⁸ It was used a portable gas chromatograph, model μ GC 3000 - Agilent.

¹⁹ The physical properties of the gas are obtained from the molar composition by calculation as required by the Decree of the Ministry of Economic Development February 19th, 2007: "Approval of the technical regulation on the physic-chemical characteristics and the presence of other components in the fuel gas to be pumped" (G.U.no. 65 of March 19th, 2007)

STORAGE PLANTS:

- ❖ CELLINO, company Edison S.p.A.,
- ❖ CORTEMAGGIORE STOCCAGGIO, company STOGIT S.p.A.,
- ❖ MINERBIO STOCCAGGIO, company STOGIT S.p.A.,
- ❖ FIUME TRESTE STOCCAGGIO, company STOGIT S.p.A.,
- ❖ RIPALTA STOCCAGGIO, company STOGIT S.p.A.,
- ❖ SERGNANO STOCCAGGIO, company STOGIT S.p.A.,

Analysis of natural gas coming from production oil plants and then compressed before being sent to onshore treatment plants were also carried out, on the GARIBALDI K offshore compression oil plant and on the ANNAMARIA B production oil plant, company Eni S.p.A.

OFFSHORE PLATFORMS:

All owned by Eni S.p.A. company

- ❖ GARIBALDI K compression oil plant;
- ❖ ANNAMARIA B production oil plant.

The result of monitoring activities are available on the website of the DGRME at the link <http://unmig.mise.gov.it/unmig/cqg/cqg.asp>.

Environment in the workplace

In the context of the environmental sector and employees safety, monitoring measures were carried out by the Division V in the offices of Viale America,201, in order to verify the possible presence of dispersed asbestos fibres in the air.

Suitability for explosives use

Division V performs technical investigations for the recognition of explosives employment in mining activity, detonating accessories and ignition means, as provided by the Ministerial Decree April 21st, 1979. The list, annually approved, contains the explosive products that, according to the classification under Title VIII of the Republic President Decree no. 128 of 1959, 9th April are allowed for use in mining sector in compliance with the requirements of the Ministerial Decree of April 21st, 1979.

For the year 2014 the explosives list was approved by the [Decree of 2014, March 5th](#). Later in the year, the list was integrated and modified with the following Decrees:

- ❖ [Decree June 27th, 2014](#);
- ❖ [Decree November 4th, 2014](#);
- ❖ [Decree December 3rd, 2014](#).

ICHESE Report: recommendations and resulting actions

The International Commission on Hydrocarbon Exploration and Seismicity in Emilia Region (ICHESE), created on December 11th, 2012 with a Decree issued by the Head of the Civil Protection Department Franco Gabrielli in response to the request of the Emilia-Romagna Region's President Vasco Errani, assessed the possible relationship between the hydrocarbon E&P activities and the increase of seismicity in the Region, struck by an earthquake on May 2012.

On February 2014, the final [Report](#) was consigned by Commission to the Emilia-Romagna Region that published it online on April 15th, 2014.

The Commission came up to the conclusion that it is possible to exclude that the majority of mining activities near the area struck by the earthquake could have affected the seismic events in Emilia Region. The Commission stated that the level of information and the knowledge at the time of the delivery of the Report (February 17th, 2014) didn't allow to exclude neither to demonstrate the hypothesis that the hydrocarbon production in MIRANDOLA license area could have contribute to trigger the seismic events of 2012.

In order to provide a univocal answer, the Commission believed that it was necessary to clarify the dynamic model of the reservoir and of the surrounding rock system by an updated physical model and proper field tests.

Furthermore the Commission recommended to study a new integrated system for monitoring seismic parameters, ground deformation and pore pressure in order to obtain more elements to evaluate if a seismic event is natural or induced.

Following the Commission's recommendations, two different initiatives were developed in which the DGRME was involved: the monitoring activities at the MIRANDOLA license site (known as "Laboratorio Cavone") and the issuing of the "Guidelines for micro-seismicity, ground deformation and pore pressures monitoring".

Laboratorio Cavone

After the divulgation of the ICHESE Report, the Italian Ministry of Economic Development and the Emilia-Romagna Region, after a consultation with local authorities, proposed to "Società Padana Energia SpA" - owner of the MIRANDOLA license - to make the site available for a period of 90 days, in order to develop monitoring and research operations (following the ICHESE Recommendations) for providing a complete answer about the Cavone field.

On April 17th, 2014 the Italian Minister of Economic Development Federica Guidi, the Emilia-Romagna Region President Vasco Errani and the Società Padana Energia's CEO signed an [agreement](#) on the above mentioned activities of monitoring and study for MIRANDOLA area. The UNMIG Section of Bologna carried out activities of surveillance and control in order to guarantee the right tests program development.

With the Assomineraria patronage, Padana Energia accepted the proposal of the Minister and the Region, subordinating normal field operations to the above mentioned ones.

The monitoring program and the communication about Cavone field activities involved also local communities and, in particular, Municipalities of Mirandola, Novi and San Possidonio, as well as the "Regional Department for the soil and coasts protection, civil protection and mountain and environmental policies".

In order to be transparent with citizens, the results of such activities were published online starting from May 21st, 2014 on a dedicated website (www.labcavone.it) and a real-time public informatics system was created. Through this, citizens can actually check maps, active wells, national or local seismic stations as well as the whole list of recorded seismic events. Finally, reports about the advancement state of activities are available on the website.

During the monitoring period, about 1 million of pressure and temperature data and 5 thousand of oil, water and gas flow-rate were gathered and used to update the static and dynamic model of the Cavone reservoir.

On the basis of the results of the simulations carried out by the updated model, it was possible to prove that there is no physical correlation between hydrocarbons production activities in the MIRANDOLA license and the 2012 seismicity in Emilia Region.

Developed with the patronage of Assomineraria, the model was validated by the National Institute of Geophysics and Volcanology (INGV), while results of analysis on the Laboratorio Cavone were analyzed and assessed jointly during the tests and in the final meeting at DGRME, on July 2014.

As conclusion of the activities, results were disclosed in occasion of a public event occurred at the Cavone Oil Plant on August 1st, 2014.

All the material is now available on the website www.labcavone.it, included the final document and the INGV evaluation, the data acquired by micro-seismic monitoring network. The network is still recording data as pilot site in application of the Guidelines (explained in the following Paragraph).

Guidelines for seismicity, underground deformations and pore pressures monitoring in range of human activities

Pending the definition of the regulation in this sector or the identification of the competent authority for monitoring activities, the Minister of Economic Development -as competent authority for license release and for operating authorizations and surveillance for hydrocarbon production and natural gas storage- started to draw up the Guidelines for an integrated monitoring system, following the ICHESE Commission recommendations.

On February 2014, a [Working Group](#) was established at the Ministry of the Economic Development and in the frame of CIRM. Technicians belonging to the Ministry, to the Civil Protection Department and other experts from CNR, INGV and OGS worked to the definition of “Orientations and Guidelines for micro-seismicity, ground deformation and pore pressure monitoring in the frame of human activities”.

According to ICHESE recommendations, Working Group duties were defined in the [Constitutive Decree](#) in which it was underlined the urgency and the importance to issue such operative guidelines in order to allow Operators to carry out production and storage activities in accordance with the highest levels of knowledge currently available.

Drafting work was very difficult because of the lack of standard procedures for these kind of monitoring and, in particular, because no criteria were defined for the concomitant evaluation of the three monitored parameters.

Guideline issuance entailed the individuation of procedures to assure full transparency and objectiveness of such monitoring and about the diffusion of information. Same principle for criteria and procedures for identifying Centres that, on the strength of their competencies, will manage such monitoring activities, will analyse gathered data and will make it available to Company performing hydrocarbons production and storage activities.

On November, 24th, 2014 the Working Group delivered the document including “Indications and Guidelines for micro-seismicity, underground deformations and pore pressures monitoring caused by human activities”, so called [Guidelines](#), in order to start up a first experimental phase on pilot sites with different characteristics. The document set required characteristics for monitoring networks.

Before the human activities starting, the monitoring allows to quantify the background values of the parameters, both natural and/or induced by other existing human activities. During the operating phase, the monitoring allows to distinguish and measure continuously the possible seismicity and the variations of all the monitored parameters by comparison with the background values. Before to project a monitoring network or in order to verify the suitability of an existing one, the Guidelines require an in-depth geological, structural and seismic-tectonic characterization of a wider area than the reservoir and the collection of all the needed data.

So, the volumes to be monitored and the technical requirements for the monitoring networks, to be applied with the perspective of improving the existing ones, are defined.

Such Guidelines, with suitable adjustment, will be useful for every human activities that interest big artificial basins, geothermal energy, CO₂ storage, mineral extraction and, in general, underground activities.

ISPRA Report

In order to create a snapshot of the Italian competences in the field of induced seismic, the Institute for Environmental Protection and Research (ISPRA), with the participation of the National Institute of Geophysics and Volcanology (INGV), the National Research Council (CNR), the National Institute of Oceanography and Experimental Geophysics (OGS), the Civil Protection Department of the Presidency of the Council of Minister and with the Ministry of Economic Development – DGRME, issued a specific report.

Moreover, in such [report](#), databases, information about infrastructures and monitoring network, as well as a brief synthesis of past studies (performed by different public or private entities) are included.

Current cooperation with external bodies and university

Considering the growing importance and interest in the European and global community about the issue of safety of offshore oil & gas activities, topic in which the DGRME is strongly involved through the activity of transposition of the Directive on safety of offshore oil & gas operations (Directive 2013/30/UE), it was considered strategic – and it became possible – the start of a number of cooperation with external body, in order to obtain a technical support to develop the such planned activities.

The signing of these agreements, as anticipated, became possible thanks to the implementation of [article 35 of Decree Law no. 83 of June 22nd, 2012](#), that increased the amount of the royalties that the holders of offshore production licenses are required to pay every year, following the Article 19, paragraph 1 of the legislative Decree no. 624 of November 25th, 1996.

Therefore, holders or joint holders of mining licenses are required to pay the amounts corresponding to the value of such increase to the State and, then, it will be entirely relocated, in equal parts, to the Ministry of Environment and the Ministry of Economic Development to ensure, respectively, the full swing of:

- ❖ marine pollution monitoring and contrasting and surveillance activities;
- ❖ safety level control (also environmental safety) of offshore exploration and production activities.

DGRME objectives for increasing the safety level of offshore oil & gas installations

The objectives of DGRME, thanks to the signature of such agreement, aim to increase the safety level of offshore oil & gas installations.

In particular researches, monitoring and control activities are foreseen, both for general aspects and for each installation and structure. They must be carried out in co-operation with Operators to deepen E&P activities safety issues.

Such activities and goals are summarised as following:

- ❖ identification of an index, based on an appropriate set of measurable parameters, for the evaluation of variation of the offshore installations safety level from the current status and criticalities;
- ❖ application of a naval-air-satellite integrated system for the daily monitoring of Adriatic Sea waters, in coordination with MATTM;
- ❖ check of Adriatic sealines conditions for oil & gas transportation;
- ❖ check of steel structures conditions of offshore facilities;
- ❖ monitoring of offshore operations: check on drilling operations and on recording systems of drilling parameters;
- ❖ evaluation of seismic hazard (including induced seismicity) of already existing platforms, based on the assessment of their position respect to possible tectonic structures and relative pressure field;
- ❖ development of feasibility studies for seismic and ground deformation monitoring;
- ❖ check of the current emissions of installations and their forecast to 2020 (SEN), analysis of environmental effects and of the offshore dispersion dynamics of pollutants;
- ❖ analysis of the environmental effects of the NaTech operations and incident.;
- ❖ identification and gathering of information about the activities of Italian institutions for increasing levels of offshore safety and related databases;
- ❖ geology and stratigraphy analysis of marine areas recently opened to hydrocarbons exploration and production activities;
- ❖ energetic optimisation of the offshore installation even by means of renewable energy sources;
- ❖ evaluation of scenarios for risks identification for production and drilling plants (Directive 2013/30/UE, art.12 and 13; Attachments I e III) that must be considered in the Report on Major hazard and relevant mitigation actions;
- ❖ study of operating procedures for control and evaluation of connection with risks mentioned in point 13 (Attachments IV and VI of Directive);

Hereafter a brief description of the Agreements concerning the 9 involved bodies in order to achieve the above mentioned objectives.



Italian Navy

The [Italian Navy](#) is a military corps belonging to the Italian Republic Armed Forces. The Italian Navy is responsible for all naval operations in national and international waters, to prevent our territory from any threat.

The collaboration with the Italian Navy aims to control and secure marine areas which are currently (or that could be) exploited for the oil & gas production, in order to avoid unauthorised activities and to inspect offshore and underwater installation (without prejudice to the Italian Coast Guard's functions)

The [Agreement](#) was signed on January 30th, 2014.

By means of the press release of May 8th, 2014 entitled "Offshore Activities: Minister of Economic Development and Italian Navy together for the safeguard", the Agreement between these two bodies, aimed to strengthen the safeguard of national resources and of offshore oil & gas production, was made public.

Thanks to this Agreement, the Italian Navy provided human resources and naval means for the vigilance on offshore installations with particular regard to deep water areas, providing an important support to the control activities of the Directorate.

Within this Agreement, activities of seismic data exchange are in progress between the two bodies. In fact, as defined in such agreement, data of mutual interest, included those available at the Idrographic Institute (IIM) of the Italian Navy, will be shared.

The cooperation is focused on:

- ❖ supporting DGRME inspections activities on offshore oil & gas production installations;
- ❖ monitoring and remote control of the position of vessels carrying out prospecting operations;
- ❖ patrolling marine areas opened to prospecting, exploration and production of hydrocarbons, in order to prevent and detect unauthorized activities and trespassing by bordering states;
- ❖ logistic support for sealines and subsea structures verification;
- ❖ monitoring and remote control of naval means performing prospection activities in Italian seas;
- ❖ issuing of 3 new nautical maps by the IIM regarding the new marine Zone E, located in the western offshore of Sardinia.

The opportunity to cooperate with the Italian Navy will also allow to take advantage of its competencies for supporting DGRME in scientific activities on board oceanographic research vessels Galatea and Magnaghi.



CRIET – University of Milano Bicocca

[CRIET \(Center for Interuniversity Research in Economics, Land\)](#) was established in 2006 by the University of Milano-Bicocca, (current headquarter), Pavia and Ferrara with the task of studying the territorial economic systems in their different aspects from an interdisciplinary point of view.

The Agreement was signed on July 30th, 2014 while the executive act on October 15th of the same year. The foreseen activities are:

- ❖ supporting DGRME for analysis and research activities on geological structure of new marine areas opened to oil & gas exploration and production and on offshore mining activities performed by bordering countries, by means of dedicated ICT system (hardware & software);
- ❖ supporting for scheduling and implementation of suitable technical control on production facilities, even concerning the analysis of gas emissions and liquid wastewater. Such controls aim to increase the safety of offshore installations as well as the safeguard of the health of workers and environment around platforms.

Sampling activities, as well as analysis of liquid and gas offshore installations wastewaters and studies on geology of marine area currently opened to mining activities, near French and Spanish waters are ongoing.



AMRA

[AMRA \(Analysis and monitoring of environmental risks\)](#) is located in Naples and is a centre of competence in the field of analysis and monitoring of environmental risk, even connected to offshore oil & gas activities.

The Agreement was signed on August 4th, 2014 while the executive act was signed on September 23th of the same year. The forecasted foreseen activities are:

- ❖ supporting DGRME for research and analysis activities for monitoring the environmental risk connected to offshore installations, even through multi-risk probabilistic analysis of natural events;
- ❖ supporting DGRME for researches and analysis for evaluation of risks connected to the exploitation of natural resources (induced seismicity and pollution), even through the use of new methodologies;
- ❖ gathering, management and elaboration of data acquired by the existent seismic monitoring networks about ground deformation (satellite data included), oil & gas production or fluid reinjection activities. Cooperation will cover also the historical and instrumental analysis aimed to the marine-weather forecast in offshore pilot-site;

- ❖ development of new methodologies for probabilistic analysis for the evaluation of natural risk connected to offshore oil & gas production activities, with particular attention to:
 - analysis of triggered and induced seismicity;
 - analysis of the evolution of coastal lines near offshore platforms.

To achieve such objectives, it was created the so called “Argo” project for the 2015-2017 period, aimed to study and analyze natural and human risks linked to hydrocarbon offshore installations safety. The study will deepen the weather hazard characterization and the installations exposure to such risks. It will consider the coast line evolution and the stress variation on known tectonic structures with respect to production parameters. The project will combine the multi-risk approach for natural events linked to climate changes and probabilistic methods for industrial risks triggered by natural events (NaTech) on installations.

To this aim, 3 offshore plants were indicated as case-studies.



Corps of harbour masters and coast guard

The [Italian corps of harbour masters and coast guard](#) is a Corps of the Italian Navy whose tasks and functions are mainly connected to the civil use of the sea; even if it is principally governed by the Ministry of Infrastructure and Transport. It operates on behalf of several other ministries for other tasks.

The memorandum of understanding between the DGRME and the General Command of the Corps of harbour master was signed on September 16th, 2014 within the framework of already consolidated activities of inter-institutional cooperation defined by the related executive act.

This memorandum strengthens, at a central level, the already existing relationship among the local division of the above mentioned authorities in order to assure, within their competencies, the safety of offshore operations.

Activities have the following objectives:

- ❖ implementing control and surveillance activities on offshore exploration and production facilities;
- ❖ supporting DGRME/UNMIG for inspection activities of on sealines, subsea system and exploration or production facilities by means of suitable vessels;
- ❖ providing DGRME with data concerning the vessel monitoring (e.g. survey vessel performing scientific research in the Mediterranean sea or prospecting operations or scientific research in the Continental shelf).



RSE - Ricerca sul Sistema Energetico

[RSE - Ricerca sul Sistema Energetico](#) is a joint stock limited company, entirely owned by whose unique shareholder is GSE S.p.A., which develops research in electro-energy system, with particular focus to on the strategic national projects of general public interest, financed by the Italian Electricity System Research Fund of the Italian Economic Development Ministry.

The Agreement was signed on October 20th, 2014 and the executive act on November 13th of the same year.

Activities which RSE is involved in, concern technical support to DGRME for:

- ❖ development of analysis and research for the sustainable development use of underground natural resources through the implementation of projects about the energetic optimisation of offshore installations, by means of the exploitation of renewable sources;
- ❖ analysis of environmental effects and of dynamics of pollutant dispersion in the sea water, following to incidents or continuous emission;
- ❖ analysis and the simulation of circulation/diffusion of fluids in the underground.



OGS - National Institute of Oceanography and Experimental Geophysics

[OGS - National Institute of Oceanography and Experimental Geophysics](#) - is an internationally oriented public research institution.

This institution operates and develops its own mission in the European Research Area (ERA) and internationally, prioritizing the basic and applied research fields of:

- ❖ oceanography (under the physical, chemical and biological aspects);
- ❖ geophysics and marine geology;
- ❖ experimental and explorative geophysics.

The Agreement was signed on September 30th, 2014 and the executive act on December 11th of the same year. Object of the cooperation will be:

- ❖ development of methodologies of analysis to have a just in real time correlation between seismicity data and oil & gas production activities;
- ❖ analysis and research about management, conservation and valorisation of data concerning offshore oil & gas exploration activities (Minister of Economic Development and OGS data);
- ❖ analysis and research on natural and human risk for the safety and protection of offshore production installation.



INGV - National Institute of Geophysics and Volcanology

[INGV - National Institute of Geophysics and Volcanology](#) - was born in September 1999 and was meant to gather all scientific and technical institutions operating in Geophysics and Volcanology and to create a permanent scientific forum in the Earth Sciences.

The Agreement was signed on November 6th, 2014 while the executive act signature on December, 22nd of the same year. Object of the cooperation will be:

- ❖ implementation of feasibility studies for seismic, ground deformation and hole pressures monitoring during offshore oil & gas production activities, aimed to increase the offshore safety level;
- ❖ characterization of seismic signal aimed to distinguish between induced and natural seismicity;
- ❖ development and implementation of procedures for offshore monitoring.

In the frame of such Agreements, some opportunities for meeting will be created, aimed to coordinate and optimize the team work of subjects involved in reaching the same objectives. Particularly they are foreseen:

- ❖ presentations of ongoing works among the partners, every 3/6 months;
- ❖ dissemination activities for single topic, with participation of the public, with involvement of all the working groups;
- ❖ yearly workshop to disseminate the whole activities carried out in the frame of such Agreements.

NATIONAL ACTIVITIES

As known, the Ministry of Economic Development and the Ministry of the Environment and Protection of Land and Sea approved, by means of Inter-ministerial Decree of March 8th, 2013 the National Energetic Strategy (SEN). SEN clearly promotes the start of a new phase of oil & gas research and production in order to see, in a wider context of energetic balance to 2020, a gradual transition from hydrocarbons to renewable sources. All that evaluating economic and environmental risks and benefits and taking into account the expectations of involved population.

Normative monitoring and legislation

During 2014 the evolution of legislation, both national and European, with potential impact on matters under responsibility of the DGRME was constantly monitored. The main changes introduced in the year by primary legislation of the sector and, taking into account the legislative and jurisprudential developments, a brief description of the secondary regulations that was updated are presented here below.

Interministerial Decree of August 7th, 2014

“Adaptation of procedures for the recognition of economic benefit to reduce the pump fuel prices, ex art 45 of Law no. 99 of the July 23rd, 2009”.

The [Inter-ministerial Decree of August 7th, 2014](#) of the Minister of Economy and Finance, in agreement with the Minister of Economic Development, published in the Official Gazette no. 245 of October 21st, 2014 has implemented the provisions of art. 45 paragraphs 4 and 5 of Law no. 99/2009, as clarified by the administrative judge, reforming the method of allocation of the total amount for the initiatives in favor of residents in each of the concerned regions to be calculated in proportion to their production.

Taking into account the suggestion made by the social partners of the Basilicata Region, new rules for the allocation of hydrocarbons bonus were adopted, so as to contribute to the economic support of the residents with lower income, given the gap between residents.

Bonus distribution is proportional to the different income brackets and the maximum subsidy is automatically conferred to bonus card holders, whose incomes are lower than 28 000 €. People belonging to 28 001-75 000 bracket collect the half of the maximum bonus; users with incomes higher than 75 000 € collect a minimal bonus of 30 € per year.

The data reported by the Tax Revenue Agency showed that 90% of claimants could benefit from the bonus higher; about 9% were entitled to the bonus equal to half of the previous year and a remainder, less than 1%, received the minimum bonus of 30 €.

With the changes introduced by art. 36 paragraph 2-bis of D.L. no. 133 of September 12th, 2014 converted with amendments by Law no. 164 of November 11th, 2014 the Fund for the reduction of the oil price was replaced by the Fund for the promotion of economic development measures and the activation of a social card in the territories affected by the oil and gas extraction activities.

In the course of 2015 the necessary measures to implement these new provisions of the law will be adopted.

Decree Law no. 91 of June 24th, 2014

“Urgent measures for the agricultural sector, the environmental conservation and the energetic efficiency of scholastic and university construction industry, the re-launch and the development of enterprises, the reduction of costs lying on the feed-in tariffs, as well as for the immediate definitions of fulfilment deriving from European norms”, amended by Law no. 116 of August 11th, 2014.”

During conversion of [Decree Law no. 91 of June 24th, 2014](#), new measures were introduced by means of art. 30-quinquies, paragraph 1 of the Law no. 116/2014. Such measures, modifying art. 45 of Law no. 99/2009, eliminated Regions interested by re-gasification activities from the list of beneficiary Regions of Fund for the reduction of the retail price of fuels.

Decree Law no. 133 of September 12th, 2014

“Urgent measures for the opening of the sites, the execution of public works, the digitization of the Country, the bureaucratic simplification, the emergence of the hydrogeological imbalance and for the resumption of production activities, converted with amendments into Law no. 164 of November 11th, 2014.”

[Decree Law no. 133 of September 12th, 2014](#) (the so called “Sblocca Italia” Decree) intervened in various areas relevant for the Country economy, as the energy sector, introducing measures to ensure growth and jobs the revival of public works and private building and the strengthening of security and energy supply.

Finality is, on one side, to offer to territories an opportunity of economic and employment development and, on the other side, to diversify the national energetic mix. All that with the additional objective to balance such energy mix in light of the changed needs of the supply safety in the difficult international context and in

application of recommendations of G7, European Commission (“Energy Union” communication) and European Council, in full application of the SEN.

So, as for hydrocarbons, the “Sblocca Italia” Decree is focalized on two themes:

- ❖ fostering the realization of measures for the economic and employment development of Regions interested by production activities using resources deriving from hydrocarbon exploitation (art. 36 and 36-bis);
- ❖ simplifying and making more efficient authorization procedures, in line with OECD countries more advanced in this field.

Therefore, “urgent energy measures” that impact on the development of oil and gas production were assured, as an important lever to boost the Italian economy.

In particular, with article 36 and for 2015-2018 period, costs of environmental improvement and economic and industrial development incurred by Regions affected by oil and gas activities and financed by royalties, according to art. 20, paragraphs 1 and 1-bis of Legislative Decree no. 625/1996, were excluded from the internal Stability Pact. That in order to assure a direct correlation between benefits coming from mining activities and territories interest by such activities.

Moreover, article 45 of Law no. 99 of July 23rd, 2009 was modified to extend the use of royalties, not only to reduce the oil price for residents of Regions affected by upstream activities, but also to adopt measures of economic development and to activate a social card in such territories. Additionally, it is planned that, in order to deliver the Fund, the Interministerial Decree referred to in art. 45, paragraph 4, of the Law no. 99/2009, must be adopted in agreement with the concerned Region.

In addition, further initiatives in favour of local territories interest by mining activities were implemented according to art. 36-bis.

In fact, to overcome the difficulties of implementing art. 16 of the Decree Law no. 1 of January 24th, 2012 that provides to use a part of increased State revenue, coming from exploitation of national strategic hydrocarbons, for infrastructural and employment development in the area with oil & gas production plant, with article 36-bis it was established that 30% of such increased revenues, realized through payments of the license holders for onshore oil and gas production, are used for those purposes laid down in article 16, until the tenth tax year after the entry into service of production plants.

Significant changes were introduced, however, by article 38 of the “Sblocca Italia” Decree. In fact, recognizing oil and gas activities (prospecting, exploration and production of hydrocarbons) and the underground natural gas storage such as urgent activities with strategic nature and with public interest status, it introduced new principles for the issuing of licenses in the mining sector. In particular, as logical consequences of the strategic character of the above mentioned activities, the responsibility of onshore upstream projects environmental assessment (VIA) was transferred from Regions to Ministry of Environment, maintaining unchanged the

participation of local bodies to the procedure and the concurrent function of Regions in the issuing of final authorizations, through an agreement.

A plan of the areas where oil & gas operations are permitted and, in order to implement the SEN, the “single license” were also introduced (art. 38, paragraph 5 and 6). The single license includes exploration and production activities instead of considering two separate licenses. In fact, SEN foresees the updating of authorization procedures as one of the main normative interventions and considers northern Countries (Norway, U.K. and Denmark), where attention for the environment was successfully coupled with an intense mining activity, as national benchmark: in particular, above mentioned Countries envisage a single license.

To assure the best environmental conservation, it was even detailed the obligation to provide assurance or bank guarantees in order to assure the environmental recovery at the end of the mining activities, as well as to cover every cost in case of accident during operations.

Then, article 38 introduced a further innovation: in order to conserve the national resources of hydrocarbons located in the continental sea and near the areas with upstream activities of other coastal Countries, offshore experimental projects for oil and gas production can be authorized for a five years period (eventually extendible) in order to test the best technologies to limit the effects of subsidence on the Italian coast, also triggered by mining activity of the coastal countries, ensuring tax revenue for the State.

Moreover, contribution that Companies have to pay for the expenses incurred by the Ministry of Economic Development in their activities (authorizations, permits or licenses for the construction and testing of systems and energy infrastructure under state jurisdiction, of higher value 5 million euro), already foreseen by the Law no. 239 of 23 August 2004, was increased from 0.5 ‰ to 1 ‰.

Finally, it was confirmed the prohibition of research and extraction of the shale oil and shale gas, according with SEN provisions.

Law no. 190 of December 23rd, 2014 - (Budgetary Plan for 2015).

“Provisions for establishing the annual and multiannual budget of the State (Budgetary Plan for 2015).”

The article 1, paragraph 554 of the [Law no. 190 of December 23rd, 2014](#), modified the article 38, paragraph 1-bis of the “Sblocca Italia” Decree, disposing the creation of a “plan of areas” to identify territories where hydrocarbons prospecting, exploration and production activities, as well as those of natural gas storage, are allowed. In Particular, it was established that such Plan shall enter into force through Ministerial Decree of the Ministry of Economic Development, after consulting the Ministry of the Environment and Protection of Land and Sea and upon agreement with the Unified Conference for onshore activities. Finally, it was disposed that, if no agreement can be reached, the Presidency of the Council of Ministers shall act in compliance with the procedures laid down in art. 1, paragraph 8-bis of the Law no. 239 of August 23rd, 2004. It is also foreseen that, pending the adoption of the Plan, dispossession act will be issued based on laws in force before of the “Sblocca Italia” Decree.

Directorial Notice of January 31st, 2014

“Application for exploration licenses for geothermal resources finalized to pilot plants experimentation”

For the purposes of the efficiency of the administrative action as indicated in art.1, paragraph 3-bis, of Legislative Decree no. 22 of February 11th, 2010 and seen the normative modifications concerning the installed power of pilot plants and the consequent energy delivered to the grid, the [Directorial Notice of January 31st, 2014](#) was issued. It published in BUIG all the above mentioned applications, presented and accepted with reserve because surpassing 50 MW, and disposed the acquisition of the technical opinion of CIRM. At the same time, the period for application of new pilot plants was closed.

Directorial Notice of February 20th, 2014

“Minimum conditions for the verification of applications for prospecting and exploration licenses in deep water”

Seen the importance to perform mining activities in deep water, far away from shores and in compliance with in force environmental laws, it was issued the mentioned [Directorial Notice of February 20th, 2014](#) in order to establish the minimum conditions for the verification of applications for prospecting and exploration licenses in such waters or in complex area due to the high depth of the sea bottom, where operations needs high prudence and technical skills.

Transposition of Directive 2013/30/UE

If at an international level, beyond the participation of 2 representatives in the consulting group of the Commission EU Offshore Authority Group (EUOAG), DGRME took place actively in the ordinary legislative procedure of the [Directive 2013/30/UE](#) of June 12th, 2013 on safety of offshore oil and gas operations and amending Directive 2004/35/EC, at a national level it headed the transposition in national norm.

During 2014, DGRME coordinated, in close cooperation with the Ministry of the Environment and Protection of Land and Sea, several meetings of the technical Working Group established for the transposition work of the “Offshore Directive”, involving representatives of every interested Administrations (the Ministry of Labour and Social Policies, the Ministry of Foreign Affairs and International Cooperation, the Italian Navy, the Italian corps of harbor masters and coast guard, INAIL, The Civil protection department of the Presidency of the Council of Ministers, the Ministry of Heritage and Cultural Activities, the Ministry for the Economy and Finance and the Ministry of Infrastructure and Transport), ended its work on June 2014, in full compliance with commitments made with the European Commission.

Final output is a scheme of Legislative Decree, widely shared with all members of the Working Group and currently under examination by the legal offices of the involved bodies, to be presented to the Council of Ministers, after the acquisition of opinions of the Unified Conference and of the competent committees of the “Camera dei Deputati” and “Senato della Repubblica”, in compliance with the relative Law of European Delegation.

During the preparatory work, even the main sector stakeholders were involved in order to illustrate them the performed activities and to gather their possible remarks

Marine Strategy Framework Directive and the Legislative Decree no. 190/2010: operative implementation and the “Charter of Livorno”

The Strategy Framework Directive for the Marine environment 2008/56/EC (MSFD, Marine Strategy Framework Directive), entered in force in July 2008, was formally adopted in Italy by Legislative Decree 190/2010, which provides a series of further subsequent actions to be implemented. Among them there are the definition and implementation of coordinated Monitoring Programs (MP).

The definition and implementation of coordinated Monitoring Programs is the second phase for the implementation of Decree 190/2010 and following the first three basic steps in the Marine Strategy:

- ❖ the Initial Assessment (IA) of the environmental status of marine waters, performed on the basis of art. 8, based on existing data and information and related to the essential characteristics of the Italian maritime environments, pressures and impacts on them are manifested, which also includes an analysis of the socio-economic aspects of the use of the marine environment and the costs its degradation;
- ❖ the determination of the requirements of good environmental status (GES, Good Environmental Status), performed in the art. 9, in relation to the 11 descriptors listed in Annex I of the Decree. no. 190/2010;
- ❖ the definition of Environmental Targets (ET), performed in the art. 10, able to guide progress towards the achievement of good environmental status.

The first phase for the implementation of the Legislative Decree no. 190/2010 ended on October 15th, 2012 with the transmission to the European Commission of the results of the initial assessment, the definition of good environmental status and the environmental targets.

The deadline for setting up and implementation of coordinated monitoring programs had instead been fixed at July 15th, 2014.

The Decree 190/2010 also provides for a third phase, in the art. 12, which is the execution of programs and the launch of measures (PoM, Programs of Measures) aimed to achieve environmental targets or maintain good environmental status. The programs of measures should be drawn up by December 31st, 2015 and must be initiated within one year after that date.

The path for the implementation of Decree. 190/2010 is led by the Ministry of the Environment, which, in exercising its powers of coordination (art. 4), employs a Technical Committee (art. 5) as an organism that contributes to the definition of the acts relating to the Marine Strategy, the composition of which ensures the representation at central, regional and autonomous Italian provinces, as well as to local authorities.

Representatives of DGRME sit inside the aforementioned Technical Committee and actively contributed to the definition of the proposed GES and TARGET (May 2014) and, in particular, the development of the mentioned programs Monitoring, then placed in public consultation (June -July 2014) and then transmitted to the European Union.

The directive states that develop and initiate coordinated monitoring programs for the continuous evaluation of the environmental status of marine waters with reference to the environmental targets established to guide the process towards the GES. The implementation of the Marine Strategy is, therefore, one of the pillars of the “Charter of Livorno”, a guideline document for a strategy of the sea that combines environmental protection and economic growth.

The Charter, set up November 15th, 2014 thanks to the work of Administrations - including DGRME - and stakeholders, recognizes the need to meet four requirements:

- ❖ an uniform governance at national level;
- ❖ land-sea connections to promote the participation of coastal communities;
- ❖ the harmonization and effectiveness of offshore controls at and along the coasts;
- ❖ the implementation of appropriate communications and the participation to the Marine Strategy.

Commission for hydrocarbons and mineral resources - CIRM

The Commission for hydrocarbon and mining resources, created by Presidential Decree of May 14th, 2007 no. 78, brings together, in a single body, the powers previously assigned to four committees.

DGRME, for institutional activities of competence, avails itself of the Commission for Hydrocarbons and mining resources' (CIRM) advice, that is a technical advisory body that expresses mandatory opinions, not binding, with regard to exploration and exploitation of mining resources (CIRM A), safety of exploration and production activities (CIRM B), determination and payment of royalties (CIRM C).

After the Council of State's opinion on art. 12, paragraph 20, of Legislative Decree 95/2012, converted by Law no. 135 of August 7th, 2012 about the need of DGRME to avail itself of expertise of the Commission's members for the acquisition of technical advices for procedures of its competence, CIRM was reactivated for the triennium 2013-2016 by the [Ministerial Decree of August 9th, 2013](#).

Moreover, art. 9, paragraph 2, of the Prime Ministerial Decree of December 5th, 2013 no. 158, laying down the "Regulation for the organisation of the Ministry of Economic Development", established that CIRM works as technical advisory body under the Directorate General frame.

In 2014, CIRM's sections met 4 times:

- ❖ Section a) 2 times, on March 19th and November 27th;
- ❖ Section c) 2 times, on February 20th and November 7th.

On February 27th, 2014 in compliance with art. 9 of the Presidential Decree 78/2007 and pursuant the ICHESE Commission's recommendations, the President of CIRM established a Working Group aiming to support the Administration for issuing indications and guidelines for micro-seismicity, ground deformation and pore pressure monitoring under the human activities and for ensuring full transparency on monitoring and disclosure of relevant information (see detail in Chapter 'Environment and safety').

Construction of methane gas network in Southern Italy

In order to complete the construction of methane gas network in Southern Italy, with a particular focus on Cilento Region, Article 1, paragraph 319 of the [Law of December 23rd, 2013 no. 147](#) (Stability Law), allocated the sum of 20.0 million euro for each of the years from 2014 to 2020, for a total amount of 140 million euro.

According to the above-mentioned law, the Inter-ministerial Committee for the Economic Planning (CIPE) recently approved a resolution entitled “Fund for development and cohesion. assignment of resources for the completion of the construction of methane gas network in Southern Italy”. This resolution establishes the “Provision for the submission of funding application by eligible municipality and priority criteria for the assessment of the admission application pursuant to art. 1, clause 319 of the Law of December 27th, 2013, no. 147”, giving start to the completion of the general Program for the construction of gas network in the Southern Italy. After its publication on the G.U., all municipalities will be able to submit funding requests.

Once classified and ranked in order of priority, the various applications will be gradually assessed and progressively approved according to available financial resources.

With the purpose to let the methane network projects start, DGRME asked to involved municipalities to submit their own “final projects” proposal for the construction of the gas network (see [Public Notice of February 28th, 2014](#) on BUIG).

Concerning the ordinary management of the Program, no new initiatives started during 2014, whereas, ordinary activities for the assessment and approval of technical testing gradually continued, as well as activities for the authorization to the extension of the limit date of the work completion.

Still in 2014, new impulses were given to the actuation of the projects of variation regarding 92 municipalities belonging to the Calabria basins known as CL 01, CL 02, CL 05, CL 08 and CL 22.

Expropriation for public interest

The procedures of expropriation for public interest related to the realization of energy infrastructures shall be adopted under request of companies which, even if authorized to carry out an energy infrastructure, do not reach any agreements in order to use goods necessary to implement their projects recognized as public interest.

To allow companies to acquire the ownership or other real rights needed to carry out their projects, or their energy programs, the administrative procedures to the adoption of the ablative acts necessary, are issued in accordance with the [Decree of the President of Republic of June 8th, 2001 no. 327](#), which bears the Unique Act upon laws and regulations on expropriation for public interest.

The Decree of the President of the Council of Ministers of December 5th, 2013 no. 158, entered into force on the February 8th, 2014, setting out the “Rules for the reorganization of the Ministry of Economic Development” confirmed the DGRME the unique Office for expropriations in the energy sector.

The operators that build pipelines which contribute to strengthening the National Gas Network, as well as companies which have implemented projects for the construction of additional energy infrastructure, address their request to the unique Office that, as expropriating State authority, instructs the procedures and enacts the necessary Decree to ensure fair compensation to the owners of expropriated assets and to allow the usability of the assets subjected to dispossession action.

The Directorate-General carries out the publication of the webpage <http://unmig.mise.gov.it/unmig/espropri/espropri.asp> in order to achieve effective public communication and transparent disclosure of the administrative action related to expropriation for public interest carried out in local communities where the infrastructures have to be realized pursuant to national energy Strategy. In the webpage is possible to find out detailed information concerning public expropriation activity under obligation of publication on the Official Bulletin of the Italian Republic.

During 2014, the Office began to publish, in the Official Bulletin of the hydrocarbons and geo-resources, a paragraph concerning extracts of the executive Decrees issued to ensure the dispossession action of the expropriating State Authority.

In the mentioned year were issued 37 executive Decrees to perform expropriation for public interest in the same number of municipalities (expropriations of land, the establishment of permanent easement, temporary occupations of areas related to the research activities and the development of energy programs).

Basic Research in the mining sector

In agreement with art. 4 Law no. 752/82 “Legislative framework for mining sector policies” and following modifications, a 10 years project started in 1986, aiming to define new areas and to increase the mining potential.

The Basic Research in the mining sector aimed to:

- ❖ reduce risks connected with mining activities;
- ❖ reduce mining costs for operators;
- ❖ increase, as a consequence, the operators initiatives in the sector.

So, during 2014, a project started up to recover data and documents of Basic Research, as result of the signature of an Agreement between Ministry of Economic Development and Sogin SpA. .

In particular, all the documents, geological, structural, mineralogical charts, chemical-mineralogical analysis database, reports on sampling and other thematic maps were stored in the hardcopy archive of DGRME and also in an old ArcGIS system and on microfilm.

Because there is no compatibility between old data and modern software to read and make available such recovered data, a conversion process from different data format is ongoing. Also the digitalization of hardcopy data is in progress.

At the end of this recovering job (probably in March 2015), all the data will be published on a dedicated website.

Geothermal Resources

In the national normative framework, geothermal resources and, in particular, the high temperature ones are considered like mining resources and so they are matter of public interest. For this reason, they must be operated under the system of license, following the Royal Decree no. 1443 of July 29th, 1927.

By the Law no. 896/1996, general principles, permitting process, duties and administrative procedures were defined.

The so called “administrative decentralization” was approved by Legislative Decree no. 112/1998, modified by legislative Decree 443/1999, that devolved the administrative functions from the State to the Regions.

As consequence, onshore geothermal resources became competence of the Regions while offshore ones of the State (Ministry of Economic Development). The State has also the assignment of resource inventory, relevant updates, data acquisition and new technologies promotion.

On the base of Title V of the Constitution, the State has even the legislative power and the power to give the guidelines about the matter. The so called “Development Law” no. 99/09 gave a new start to geothermal energy and it foresaw the liberalisation of the production licenses (medium-high temperature) as well as the simplification of the procedures to realise low temperature projects.

In 2010, the Decree no. 22 of February 11st was issued. Today, it is the main legal reference for the geothermal resources regulation.

Latest modifications to such Decree (by Decree no. 28 of March 2011) established that medium-high enthalpy geothermal fluids for 5 MWe plant, with reinjection of wastewaters in the same reservoir, are crucial for geothermal resource development.

The Ministry of Economic Development with the Ministry of Environment, in agreement with the involved Regions, are the competent authorities for geothermal permitting for pilot projects, that are submitted to environmental assessment.

Nowadays, exploitation permits for pilot projects were released up to the maximum allowed power that can be installed (50 MWe, as stated in the [Directorial Notice of January 31st, 2014](#)). Such projects foresee private investments by Operators up to 300 million euro.

As pertaining to DGRME, in July 2014 a memorandum of understanding was signed about a pilot project that aims to develop a new methodology for the quantitative evaluation of very low, low and middle temperature geothermal resources (Geo4P project), in the area of Pisa Plane.

The agreement was signed by public administrations and public companies. The project aims to integrate geological modelling with numerical ones to improve a multidisciplinary approach for projects in geo-energy terms. Such approach can be a useful tool for policy makers and for people in which lands geothermal energy is available and produced.

INTERNATIONAL ACTIVITIES

Safety and environmental protection in offshore activities

The Directorate General for Mining and Energy Resources plays a key role on the issues related to the health and safety of workers and the environmental preservation and protection, since it is closely involved in the transposition of Directive 2013/30/EU and the adoption of the Offshore Protocol for the Mediterranean Sea. Two representatives of the Directorate General for Mining and Energy Resources are part of the EU Offshore Authorities Group (*EUOAG*), an high-level Advisory Group of the European Commission on the issues of offshore safety.

The United Nations Environment Program (UNEP) has been the first world organization to deal with the marine water protection, launching the Regional Seas Program (RSP) in 1974. It aims to establish a common global strategy and a framework for the environmental protection, promoting the sustainable development and giving, however, an implementation at a “regional” level, following the identification of 18 different macro areas. The RSPs carry out their functions by an Action Plan (AP). In most cases, the Action Plan is supported by a strong legal framework through a “regional convention” and associated protocols on the specific issues.

It is well-known how the Union's policy has always been aimed to reduce the occurrence of major accidents related to offshore oil and gas activities and to limit their consequences, thus increasing protection of the marine environment and coastal economies against pollution as well as limiting possible interruption to local energy production in the Union and improving the response mechanisms in case of accident. As a result, the EU regulatory framework became highly wide, relying on a number of directives of great importance such as:

- ❖ Directive 92/91/EC concerning the minimum requirements for improving the safety and health protection of workers in the mineral-extracting industries through drilling (Health and Safety workers Directive);
- ❖ Directive 96/61/EC of September, 24th 1996 concerning integrated pollution prevention and control;
- ❖ Directive 2000/60/EC establishing a framework for EU common action about water policies;
- ❖ Directive 2013/30/EU on safety of offshore oil and gas operations and amending Directive 2004/35/EC.

Referring to the mentioned RSP, 16 Mediterranean countries and the European Community adopted the Mediterranean Action Plan (MAP). The MAP was absolutely the first ever plan adopted as a regional program under the cover of UNEP, reflecting the great attention on the offshore environmental protection by the countries bordering the Mediterranean Sea. In particular, we note the Convention for Protection against Pollution in the Mediterranean Sea (Barcelona Convention) as a legal and

operating instrument of the MAP with the coastal Countries of both sides of the basin, both EU and extra EU, as signatories.

In accordance with the mentioned Barcelona Convention, about the offshore issues and with specific reference to environmental aspects, we mention the “Protocol for the Protection of the Mediterranean Sea against pollution resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil” (Offshore Protocol).

The Offshore Protocol

The [Offshore Protocol](#) was adopted the October 14th, 1994 by the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean Sea (the Barcelona Convention, adopted in 1976 and strengthened in 1995 through its extension to coastal areas of the Mediterranean sea). The Parties are essentially the 21 States of the Mediterranean Sea and the European Union.

In particular, the Protocol - signed by 11 Contracting Parties (including Italy), and so far ratified by 6 of them (Albania, Cyprus, Libya, Morocco, Syria and Tunisia) plus European Union - entered into force on March 24th, 2011.

It provides a series of measures to prevent, reduce, combat and control pollution resulting from the following activities:

- ❖ exploration activities, such as geo-seismic surveys, the taking of samples and exploratory drilling;
- ❖ exploitation activities, such as construction of facilities aimed at exploiting resources, including drilling, extraction, processing and storage, transportation via pipeline and loading of vessels, maintenance, repair and other auxiliary operations;
- ❖ scientific research on seabed and subsoil resources.

The framework covers the entire life cycle of offshore installations (including provisions relating to authorization, construction, operations, decommissioning), and provides for cooperation between the Contracting Parties to the Convention. In particular, it regulates the activities of exploration and exploitation of the continental shelf, the seabed and its subsoil, imposing the obligation (already existing in Italy) to obtain an authorization for the conduct of such activities to be executed in line with the best available technologies.

Directive 2013/30/EU: the ordinary legislative procedure

The European Commission has reacted to the disaster in the Gulf of Mexico (“Macondo well”) in April 2010 launching an in-depth analysis of existing standards adopted throughout the European Union.

The study resulted in the drafting of the document “Facing the challenge of the safety of offshore oil and gas activities” (European Commission, 2010), where it is reported

that, even though the Union already has examples of excellence in national regulatory practices related to offshore oil and gas activities, a leveled-up harmonization of the regulatory framework on offshore oil and gas operations could further improve the safety of offshore activities.

On the basis of these findings, on the October 27th, 2011, the European Commission adopted a Proposal for the regulation of the safety of the offshore oil and gas exploration and production (Offshore Regulation) with the aim to set high minimum standards for the safety of the offshore exploration and production of hydrocarbons, reducing the probability of occurrence of serious accidents, limiting their consequences and therefore increasing, the protection of the marine environment.

During three different EU presidencies (Poland, Denmark and Cyprus), the Council, through its Working Party on Energy (EWP), where actively participated representatives of DGRME, analyzed the Proposed Regulations and submitted several amendments. Subsequently, the Proposal for a Regulation has become a “Proposal for a Directive”, following the resolution from the EWP Council and, in parallel, also from the Committee on Industry, Research and Energy (ITRE) of the European Parliament.

Under the Irish Presidency, the Directive Proposal was adopted first by the Council of the European Union, then by the European Parliament and finally published in the Official Journal of the European Union on June 28th, 2013, as “Directive 2013/30/EU of the European Parliament and of the Council of June 12th, 2013 on the safety of offshore oil and gas operations and amending Directive 2004/35/EC”. The Directorate General actively participated in the works through the formulation of comments and proposals aimed at increasing the European safety standards. In particular, the working group accepted the Italian proposal to include in the legislation the adoption of tools such as the “*black box*”, which were already introduced in our system as a result of technical investigations following the accident in the Gulf of Mexico, and which will become part of the common safety heritage in all Member States.

It is currently being transposed as detailed in the chapter 'National Activities', in Section 'Monitoring and production regulations', subsection 'Implementation of Directive 2013/30/EU'.

Directive 2014/89/UE: Maritime spatial planning

Following to a proposal of the EU Commission (2013), the [Directive 2014/89/EU](#) establishing a framework for Maritime Spatial Planning Maritime Spatial Planning was adopted on July 23rd, 2014.

The goal is to establish in EU Member States a common European framework for maritime spatial planning in order to ensure the development of maritime activities and coastal and use of the resources offered by the sea according to sustainable models. A consistent application of maritime spatial planning will allow better coordination between land and sea activities. Member States shall prepare a mapping

of such activities through management plans of marine space can promote sustainable growth, and at the same time encouraging the participation of stakeholders and cooperation with neighboring states. The use of a unique tool will help give confidence to investors and reduce the administrative burden on operators and national administrations preserving ecosystem services.

By facilitating sustainable development and investment in maritime activities, the Directive will help realize the potential of the Blue Economy in EU in terms of growth and employment. The new instrument will also foster the implementation of EU environmental legislation, such as the “Framework Directive” 2008/56/EC on the strategy for the marine environment and the Habitats Directive.

The Directive applies to the whole sea under state jurisdiction and involves different sectors. For a first test has already begun several operational plans in different marine areas including those in the northern and southern Adriatic Sea. The Project [Adri Plan](#), launched December 10th, 2013 and ending June 10th, 2015, was entirely funded by the European Commission for a total amount of EUR 1,250,000, with the aim of providing proposals and recommendations for the development of Maritime Spatial Plan.

Since the Directive expressly refers to the offshore energy infrastructures and the riches of the subsoil, DGRME representatives participated in the ascending phase of the measure, following the work of the associated table of coordination led by the Ministry of Infrastructure and Transport. In the same way, the Directorate General will follow the procedures for transposition.

Further information on maritime spatial planning are available on the website of the [European Commission](#).

Italy - Croatia Relationship

In 2009, to guarantee the exploitation of the “Annamaria” gas field, which lies on both sides of the Continental shelf delimitation line of the two States. It was signed (July 1st, 2009 and updated on January 2013) “The technical Agreement between the Ministry of Economic Development of the Italian Republic (Directorate General for Energy and Mineral Resources) and the Ministry of Economy, Labour and Entrepreneurship of the Republic of Croatia (Directorate for Mining) on the Joint Exploitation of the Annamaria Gas Field in the Adriatic Sea”.

[ANNAMARIA B](#) platform for natural gas production is operative since 2009 under the license [C.C.11AG](#) and it is located at about 40 miles from Ravenna, in proximity to the median separation line between the Italian and Croatian seas. It is connected to the twin Croatian platform “Annamaria A” of the same gas field.

In 2014, the fiscal check activity on both the platforms continued and it ended with the signature of 4 reconciliation memoranda (AIDOA - Annamaria Integrated Development and Operating Agreement). These activities were carried out jointly by the 2 governments (Italian and Croatian).

Inspection activities on the natural gas production platform ANNAMARIA B, performed by technicians of the DGRME chemical Laboratories, ended last October 30th. Activities consisted in controlling the quality of the extracted gas from the Annamaria gas field. In this occasion, the memorandum of understanding, signed between the DGRME and the Italian Navy, was applied. Particularly, in the frame of the agreed support to the DGRME offshore inspective operations, the Italian Navy provided the Procida vessel.

During 2014, Croatia opened the procedures for permitting in the Adriatic Sea, giving availability for 29 blocks ranging from 1000 and 1600 km². Of these 219, 8 are located in the Northern Adriatic Sea and the other 21 in the Central-Southern Adriatic Sea. Around 40 international companies (Exxon Mobil, Shell, Eni and other) were interested in having licence in this areas. 6 companies ask for permits on 15 areas. The experts commission, headed by the Croatian Minister evaluated successfully 10 areas that were given for exploitation to Marathon Oil, OMV, Eni, Medoilgas and INA.

The consortium composed by Marathon Oil and OMV received an hydrocarbon exploration and production license for 7 blocks in: area no. 8 (northern Adriatic), no. 10,11 and 23 (central Adriatic), no. 27 and 28 (southern Adriatic). The consortium composed by Eni and Medoilgas received the same licenses in area 9 (central Adriatic). Finally, the Croatian oil company INA. Industrija Nafta dd awarded the license in areas 25 and 26 in the southern Adriatic sea.

Technical Table Italy-Malta

The bilateral Working Group, started in 2012 to verify the feasibility of joint oil and gas activities on a part of the “disputed” areas and to understand the different normative frameworks and continued its activities during 2013 and 2014. After several meetings and exchanges of Notes between MAECI and the Maltese Government, the Italian part issued a technical memorandum (October 2013) identifying a possible area and a technical proposal (November 2013) aimed to define disciplines and procedures of the possible joint activities.

On August 8th, 2014, the Maltese government issued the *Continental Shelf Act 2014* in order to define its own continental shelf and regulate its exploration and exploitation.

MAECI and MiSE legal office, recognizing elements of strong criticality, agreed on sending on December, 19th 2014 a Note Verbale of compliant because some statements of the above mentioned Act did not appear in compliance with the *United Nations Convention on the Law of the Sea (UNCLOS)*, signed in 1982, and detrimental to the Italian interest on the seafloor and marine underground of its Continental shelf. In particular, in the Act there is no reference to neighbouring coasts, the Maltese Continental shelf is extended until the median line (without agreement) and it is defined the option to issue licenses in the internal area to the median line, affecting negatively the opportunity to find a delimitation agreement with Italy.

In the past, for protecting its valid pretences, Italy had already contested some measures of Malta like , lastly, with Note Verbale of MAECI of 12/09/2011, the public announcement published in the GUUE of August 4th, 2011 concerning the opening of areas 1, 2, 3, 4, 5, 6 and 7 for research and exploration of which only areas 3 and 4 belonged to Maltese waters.

Arctic: Relationships with Norway and Iceland

The Directorate General for Mineral and Energy Resources is part of the Italian coordination table for the Arctic, established by the Ministry of Foreign Affairs and International Cooperation after Italy has been admitted as “Observer Country” to the Arctic Council (Declaration of Kiruna, May 2013). Arctic represents a new global frontier for issues related to environmental protection, sustainable development, energy and transport.

In June 2014, Italian Embassy in Oslo organized the Italian Day in Tromsø, in order to promote Italian excellence and collaboration between Italy and Norway in the Arctic. The meeting was opened by the speeches of the Mayor of Tromsø, the Rector of the University of Tromsø and the Italian Ambassador. The DGRME supported the Embassy in the organization of the event and intervened with a speech in the institutional session. During the meeting, the speakers widely described the scientific and economic relations which unite Italy to the Arctic Region.

The economic session was attended by leading Italian companies (Eni, Edison, Fincantieri, RINA), as well as some small and medium national enterprises. There were also important Norwegian companies interested in strengthening relations with Italy. The scientific session was attended by the Italian National Research Council (which manages and shares the scientific station “Dirigibile Italia” in Svalbard with the international community) and by the National Institute for Geophysics and Volcanology, the National Institute for Oceanography and Experimental Geophysics, RSE - Ricerca sul Sistema Energetico, the Italian Space Agency and the University of Rome “La Sapienza”. The participation of the Italian professors and researchers, who

work at the Arctic University of Tromsø, enriched the scientific session which provided a comprehensive overview of important contributions of Italy in research on the Climate Change and the Arctic.

In addition to the Italian Day, the Embassy and DGRME promoted a meeting between Italian and Norwegian researchers on the topic of methane hydrates, on which Italy has significant competences.

In November 2014, the Directorate General for mineral and energy resources took part in the conference “Arctic Circle” which was held in Iceland in Reykjavik. DGRME showed the excellence of Italian expertise in the field of geothermal energy during the session dedicated to Italy. The Arctic Countries are particularly sensitive to the development of energy sources with low emissions of greenhouse gases and Italy and Iceland are among the major global players in the exploitation of geothermal resources.

The event “Arctic Circle” was organized under the high patronage of the President of the Republic of Iceland. It represents a prestigious international forum where politicians, academics, business men and non-governmental and *civil society* organizations meet each other every year, coming from more than 40 countries, to debate and share views on challenges and opportunities of the Arctic region.

In addition to the conference, the Directorate General was part of the delegation, led by the Ambassador of Italy to the Republic of Iceland, which met with Icelandic institutions and some geothermal operators with the aim of strengthening bilateral dialogue on geothermal energy.

In December 2014, the Directorate-General took part in the Conference “Climate change and future scenarios in the Arctic” organized by the Ministry of Foreign Affairs and International Cooperation, on the island of San Servolo in Venice. The Italian Senior Arctic Official introduced the conference which was attended by the envoys of the Arctic States and representatives of the world of Italian science, industry and society.

Raw Materials Supply Group (RMSG)

The Raw Materials Supply Group (RMSG) was established in the ‘80s under the leadership of the European Commission, Directorate-General for Enterprise and Industry, and includes representatives from industries, environmental NGOs, EU Member States, in order to analyse and impact on the activities related to the supply of raw materials.

During the plenary meetings held in Brussels in 2014, in which Italy was represented by DGRME, the status of the activities started in the previous years was checked and new proposals were considered, as following:

- ❖ review of the European List of Critical Raw Materials (CRM): the CRM list under revision based on updated data was completed. The EU approach is based on a

relative concept of criticality: a material is critical when it risks a shortage of availability and its impact on the economy is stronger than other Raw Materials. The criticality is based on the economic relevance of the raw material (assessed on the basis of its gross added value in the EU) and on the supply risk (determined by the geopolitical position and the concentration of a given raw material). The revision of the list increased the number of CRM from 14 to 20, depending on the environmental risk that is taken into account; to the materials already on the list drawn up in 2011 (antimony, beryllium, cobalt, fluorspar, gallium, germanium, indium, magnesium, graphite, niobium, platinum group metals, “heavy” and “light” Rare Earth elements) were included also borates, chromium, coking coal, magnesite, phosphate rock and silicon. The goal is to update this list every three year and was reiterated the Commission's commitment to fight the illegal export of waste materials; it is expected that in future works will be also included other materials considered “close” to the criticality (e.g. rhenium, tellurium).

- ❖ the “Recommendations on the structural conditions for the extraction of non-energy Raw Materials in the European Union” report was prepared by the Ad Hoc Working Group for exchange of best practices on policy and legal framework, information framework, land-use planning and permitting (AHWG, sub-group of the RMSG). The report, whose recommendations are not obligatory for the Member States, was approved and adopted by RMSG. The presented work bases its recommendations on two RMSG documents: the first is the “Report on National Minerals Policy Indicators – Framework Conditions for the Sustainable Supply of Raw Materials in the European Union”; the second is the “Study on the Evaluation and Exchange of Good Practices for the Sustainable Supply of Raw Materials in the European Union (Good practice project – report)”.

The current AHWG Report on Recommendations on the existing framework conditions for non-energy extractive industry in the European Union is structured around the following chapters:

- ❖ Policy and legal framework;
- ❖ Information framework;
- ❖ Land-use planning;
- ❖ Permitting and authorization.

Each chapter covers a short description of the topic, dealing with the state of the art, challenges, main results of the indicators report, some examples of best practices and the recommendations of the Ad Hoc Working Group on the related topics.

European Innovation Partnership (EIP) on Raw Materials

In 2010, European Commission created a program of European innovation partnerships (EIP) within the frame of the Innovation Union Flagship initiative, in order to:

- ❖ improve conditions and access to funds for research and innovation in Europe;
- ❖ assure converting of innovative idea in products and services that create growth and employment.

EIPs have been launched for those sectors where the combination of public and private efforts at regional, national and EU level in innovation, research and development sectors have been necessary to achieve key-objectives in a more rapid and efficient way. This is the case of the raw material sector. In fact, UE is strongly depending on imports of raw materials and represents an important element for its development and competitiveness. The increasing demand of raw minerals and metals, the volatility of their prices as well as the market distortion imposed by some countries highlighted the importance of such materials for our economy.

Main objectives of [EIP on raw material](#), established in 2012, are:

- ❖ the reduction of the dependency on imports by promoting production and export of raw material, by improving the supply condition of UE sources, by promoting the sources efficiency and alternative of supply through substitutes or new products;
- ❖ Placing Europe at the forefront in the raw material sector, making Europe a leader in the field of prospecting, extraction, production, recycling and substitution by 2020, mitigating negative social and environmental impacts.

Therefore, such partnership promote technology innovation along the whole chain of critical raw material (exploration and research, extraction, production, refining, recycle and substitution) even by involving normative environment and of international cooperation.

The European Commission, after a call for expression, nominated the Italian institutional representative within the partnership. During 2013, Italian partners, with the coordination of the Sherpa of the Italian Ministry of Economic Development, contributed to the definitions and adoption of the Strategic Implementation Plan (SIP). SIP was adopted on September 2013, announcing several actions concerning the three pillars of technological, not technological and international activities; moreover, it sum up the general principles and the EIP's objectives and is followed by a more detailed operative plan, defining specific actions, concrete recommendations and partnership with other initiatives (for example H2020). In particular, action promoted by Italy as KIC (Knowledge Innovation Community), RAEE recycling and sustainable mining. During the SIP implementation period (2013-2020), principal actions will be the actuation of foreseen measures, the engagement of all interested actors, the organisation and realisation of monitoring activities and, if necessary, the SIP updating.

After the SIP adoption, the European Commission has launched a call for commitments ended on February 2014. Among the presented proposals, 80 Commitments were considered compliant to SIP criteria and were selected ("Raw material Commitments").

Within these frames, innovative products, processes, services, technologies, implementable business models or idea, or with a great social impact, will be produced. Even Italy, with representatives coming from all over the academic, industrial and research world, participate and coordinate some Commitments.

Finally, in 2014, a scheme of monitoring and valuation of activities of both partnership and commitments was adopted. About future steps, new calls for commitments are foreseen in 2015, 2017 and 2019.

International Study Groups on Copper, Nickel, Lead & Zinc

The Directorate-General represents Italy in the three International Study Groups that monitor the worldwide produced and used quantities of Nickel, Copper, Lead, Zinc and predicting their trends in the medium term.

During 2014 were carried out two meetings that have dealt with problems regarding the increasing difficulties of the operators due to falling demand caused by the global crisis and the reduction of capital available.

As part of the meetings were held two joint seminars:

- ❖ the first, in April, on the theme “The mining industry and metals in Europe”, in which they dealt with different topics concerning both the policies implemented by the European Community that the role of industries and associations in the development of mining activities and raw material supply. It been dealt Europe's role in the global non-ferrous metals market, the policies implemented by the European community to promote and support the development of the mining and non-ferrous metals industry in Europe in addition to the opportunities and challenges that European mining industry should support. Were also discussed the roles that some industries and European associations play in the field of non-ferrous metals (the role of KGHM Polish copper industry in Europe; the role of Eramet Nickel industry; the role of Boliden, Swedish, industry of lead and zinc).
- ❖ the second, in October, on the theme “Recycling of metals at the international level”, focused on problems of recycling and trading of non-ferrous metals. The presentations provided an overview of the international situation, future prospects and the relationship between government policies and industry developments by considering also the current legislation and initiatives put in place to regulate the industry. During the seminar were also presented by the industries of copper, nickel, lead and zinc, the new technologies to make more economic and competitive recovery of non-ferrous metals.

According to statistical data of production and consumption detected worldwide, are shown the trends expected for the four investigated metals:

- ❖ Nickel: the production of nickel and its use have increased as a result of the worldwide economic recovery. The largest growth occurred in China and North America; although lower-level, growth was also recorded in Europe and Japan. World production of nickel was 1.75 Mt in 2012, increased to 1.94 Mt in 2013; INSG forecasts show an increase to 1.95 million tons in 2014, while estimates for 2015 a production of 1.97 million tons.
- ❖ Copper: according to the preliminary estimate of the world's copper and mining projects planned in the period 2013-2015, it was found a surplus of production amounted to 77,000 tons for the first six months of 2014 after a period of production deficit; it is estimated that the world mining production will grow by about 3% compared to 2013, although in different parts of the world production of concentrate is decreasing. Data on the average price of copper from the London Metal Exchange (LME) show a decrease compared to the negotiation of the previous year, reaching 6.942,75 dollars per ton.
- ❖ Lead: there has been an increase in global demand for refined lead metal in 2014 of about 1.4% with a production of 11.33 million tons; is expected a further increase in 2015 by about 2.5%. In China is expected to increase in both years, mainly due to further increases in automobile production, as well as the continued expansion of the mobile phone system, including the development of the largest 4G network in the world, was lower than expected to stand at 2, 5% in 2014 with a forecast of 2.9% in 2015. By Study Groups data is shown that the demand for refined lead will continue to be, although of modest amount, higher than production with a deficit estimated at 38,000 tons in 2014 and 23,000 tons in 2015.
- ❖ Zinc: the global demand for refined zinc metal in growth in 2013 has increased in 2014, an increase of 5.1% over the previous year; the production was 13.65 million tons and is expected to reach 14.05 million tons in 2015. On the basis of information received from member countries, global demand for refined zinc metal will continue to exceed the production with a deficit of 403,000 tons in 2014 and an estimated 366,000 tons in 2015.

Extractive Industries Transparency Initiative (EITI)

The [Extractive Industries Transparency Initiative \(EITI\)](#), launched in September 2002 at the World Summit on Sustainable Development in Johannesburg, aims to encourage, under an agreed frame, governments, extractives companies, civil society organisations, ONGs and international organisations to increase transparency around the management of revenues from natural resources (oil, gas and minerals), in particular in those countries where development of mining activities is growing (Africa and South-eastern Asia). EITI is based on the idea that a greater transparency about the use of wealth generated by mineral resources can boost a sustainable development, increasing the chance of a fair and efficient utilisation of such wealth, facilitating the macroeconomic and financial planning of governments.

Initiative implementation is in charge to a multi-stakeholders international process that foresees two way of adhesion, as implementing and supporting country.

Italy officially joined EITI as supporting country in 2007, renovating its participation in 2013. The DGRME, in collaboration with the Ministry of Foreign Affairs, represents Italy providing technical support to the initiative.

Among the stakeholder of the Initiative there are European Commission, European investment bank, international monetary fund, G7/G20, Organization of the Petroleum Exporting Countries and Organisation for Economic Co-operation and Development.

Under the EITI frame, in the G7 Summit (Bruxelles, June 2014), leaders announced the born of a new initiative (CONNEX, Complex Contract Negotiations) to provide developing countries with extended and concrete expertise for negotiating complex commercial contracts in the extractives sector. Such assistance will be actualised through a legal and specific multidisciplinary supports provided, for example, by experts in financial and fiscal policies, geology or environment. In 2014, implementing and supporting countries started the draft of a “Code” that will indicate duties and behavioural guidelines for each advisor.

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