



Hydrocarbons and Agriculture, Fishery and Tourism

Proposal for a Joint Action Plan between the Oil & Gas Upstream Industry and the Local Economies

Alberto Clò, Lisa Orlandi, Agata Gugliotta, Filippo Clò, Chiara Proietti Silvestri, Mattia Santori, Massimo Spigola, Chiara Volpato, Silvia Zucconi, Giovanni Marin, Francesco Nicolli



Knowledge as a Contribution to Dialogue

The connection between energy related critical issues and the Italian economic crisis is clear. It could be seen as superfluous to list all the issues, but as the problem is denied by those who object to corrective action let us remember at least one data: energy import costs. In 2012, the impact of import costs on our balance trade reached the sum of 65 billion euros, subtracting resources to national wealth by 4,1%, reduced to 3.6% in 2013 because of decreased import volumes due to the recession.

Italian yearly import costs equal domestic investments in research, environmental protection, school construction and dozens of other undertakings. Reducing import costs would channel more resources into internal growth, investments and employment projects. Thousands of domestic needs, encumbered by unsurmountable public finance constraints, could find a solution. Last but not least, corporate competitiveness would be improved. Import costs can be reduced by increasing our oil and gas domestic production, namely by exploiting our hydrocarbons reserves, which could be larger had not E&P activities been stopped in Italy about ten years ago.

Our 2012 survey shows that exploitation of resources would cut 50 billion euros import costs and achieve 25 billion euros in tax revenues in ten years. This path would be deemed practicable by all E&P countries around the world, but is felt impossible in Italy, a country which seems incapable of being normal. Opposition to mining activity is, in Italy more than elsewhere, part of a general trend of mistrust and hostility towards any kind of energy project, investment or initiative perceived as harmful to the environment.

The paradox here is that energy projects can sometimes actually improve local conditions. Thesis maintained on the subject, albeit impossible to disregard, are often irrational and difficult to contest. Indeed, discussing the question cannot be avoided; in our study we analyse one of the most frequent opinions put forward by local communities against mining activities, i.e. their negative impact on agriculture, fishing and tourism.

These activities are of great importance to local communities, which fear total disruption of their economy. It could be argued that Emilia Romagna, the area with the most significant gas extraction activity in Italian history, is also one of the most developed Regions for agriculture, fishing and tourism. Unfortunately, this point is apparently not convincing enough, so an in-depth triple-aimed study was called for. In the first place, the survey carries out a comparative analysis on a regional basis to verify the possible negative correlation between mining activities and agriculture, fishing and tourism.

Secondly, it ascertains whether mining activities can offer, rather than hinder, development opportunities to these sectors, so important for our national/local economy; finally, it identifies policies to create positive synergies between these very different activities. The study shows a series of results.

First: there is no evidence of incompatibility between mining activity and agriculture, fishing and tourism. Local economic downturn coincides with national recession data, in turn caused by various factors: the economic crisis, sector reorganisations and structural weaknesses of economic players, such as inadequate dimension, reduced productivity and lack of specialization in production. In certain cases, mining areas actually show better economic results vs. non-mining areas.

Second: positive national and international experiences show that a profitable coexistence between mining industries and other economic activities is possible; furthermore, there are good opportunities for synergy and cooperation, so far not understood, which could deliver tangible benefits to local interests, e.g. cost reduction in agriculture and fishing, development of overlooked alternative/complementary activities and optimisation of productivity structures. These forms of collaboration could erase opposition and increase local consensus towards mining activities.

Apart from analysing specific forms of collaboration and policy lines for stakeholders, the study also comes to an important conclusion. Contrast between interests is often only illusory, and should be solved with dialogue, willingness to listen, openness and precise knowledge of facts.

This survey is our initial contribution to help promote trust between parties and overcome the perception of an impossible coexistence between the hydrocarbons industry and the agriculture, fishing and tourism sectors. It is not conflict but cooperation that can bring real benefits to local economies and the future of our Country.

Alberto Clò

This document synthesises the survey conducted by RIE (Ricerche Industriali ed Energetiche) on the possible local impact of Oil & Gas (O&G) upstream activities on Agriculture, Fishery and Tourism (AFT). The study analyses arguments put forward by opposition - especially local - to mining activities, accused of damaging vital economic sectors; the prejudice has contributed to a discriminatory attitude in large part of the public opinion towards the O&G industry, hindering the exploitation of proven hydrocarbons reserves and exploration of probable reserves. RIE economic analysis and field research show that O&G e AFT can successfully coexist in the same area, but also show the need to improve communication and dialogue between the oil industry and local players to erase the downward spiral of confidence which prevents a positive relationship between the sectors. Doubling hydrocarbons production is an opportunity for our country, its economic growth and competitiveness, and it can only be done by investing on local development.

The survey's main conclusions are:

- there is no proven negative impact of mining activity on AFT sectors; the latter show similar economic trends, whether there is an extraction activity or not in the areas. In some regions where mining activity is present, AFT sectors actually show better *performances* compared to areas with no mining activity;
- the energy industry can offer AFT sectors new, not yet exploited development opportunities; profitable forms of collaboration have been successfully experimented in Italy and abroad: local players have reaped tangible benefits which have lessened their initial opposition and promoted consensus towards mining activities;
- the hydrocarbons industry should implement communication, willingness to listen and openness guidelines in order to promote trust and overcome the widespread perception of an impossible coexistence with AFT sectors; for oil companies, the challenge is to ensure a better and more open dialogue between O&G and AFT worlds;
- targeted interventions in favour of AFT sectors would demonstrate – as shown by other experiences - the commitment of the O&G industry towards a sustainable development of local areas and the possibility of a profitable coexistence between mining activity and agriculture, fishery and tourism.

O&G and AFT, a complex but possible relationship

Energy is an essential factor for all social and

economic activities. Economic poverty is at the same time the reflection and cause of energy poverty: you cannot fight the first without winning the second. Another thing altogether is the question of how solve the problem in an environmentally friendly, energetically efficient, economically feasible and technologically advanced way. The fact is that, like it or not, there is no progress without energy.

Italy's need to exploit its proven and possible reserves as an alternative to import is hindered by arguments on inevitable damages -not supported by real data- that would impact AFT sectors

The Italian mining industry has developed cutting-edge technologies, know-how, procedures which guarantee complete safety and environmental protection within the constraints of a stringent regulation; moreover, its trustworthiness is proved by all its positive experiences around the world. However, mistrust and opposition towards mining activity are still widespread in our country.

In Italy, a mining permit out of two is contested. The perception is that the mining industry cannot coexist with traditional economic sectors of the country, in contrast to what happens in hundreds of other countries where Italian mining companies operate and from where they import nearly all the energy Italy needs. In particular, Agriculture and Fishery sectors are those who show more general distrust towards mining activities, possibly caused by inadequate knowledge of mining technologies and of their impact on the environment. Hydrocarbons E&P is seen as an environmentally unfriendly and potentially polluting activity, an enemy that snatches agricultural land and marine areas and pollutes the surrounding eco-system, damaging the image of areas with tourist potential.

Nevertheless, associations representing AFT sectors oppose mining activity in ways that are different, in terms of form and contents, from those which characterise organised protest movements. AFT sectors do not completely reject mining activities and are often overshadowed by more radical movements. They tend to protest only when they feel that their associates' interests are threatened, but often end in becoming proactive and cooperative to try to find a solution.

Communications and interactions between parties are therefore key instruments to remove what prevents a possible and hoped for mediation. Dialogue is the only way to dispel all doubts expressed by AFT systems; without it, prejudicial distrust towards upstream activities will only increase (**table 1**).

Who is involved	Professional Organizations
Objections	<ol style="list-style-type: none"> 1. AFT reputational damage 2. Substraction of agricultural and marine areas 3. Lack of information and transparency 4. Distrust of environmental and marine monitoring 5. Insufficient cooperation 6. Many risks and no advantages for AFT
Attitude	Distrust towards a little-known activity
Aims	Guaranteeing protection to own economic sector
When	Protest occurs when it is felt that interests of the sector are under threat
How	Pressure on local authorities, negotiation attempts with mining companies
Relationship with Oil&Gas	Insufficient but hoped for
Possible mediation?	Why not?! If it brings advantages to both parties ...

Table 1 - Points at issue and pathways of dialogue

Great part of AFT dissent towards Oil&Gas activities comes from an underestimated relation between the sectors; on the contrary, there are real opportunities for improving local social well-being

The main objective is accepting mining activities in territorial systems. O&G operators should not be seen as temporary “strangers” but as new “citizens”, respectful of their duties and worthy of their rights. “Citizens” with great professional skills than can benefit local communities and economies. Examples of positive and profitable coexistence are frequent, even if little known, in Italy and abroad: which shows that choosing *a priori* the path of conflict instead of a mutual beneficial solution is a mistake.

Agriculture and Hydrocarbons: independent dynamics

Italian agriculture is going through a profound re-organisation: in the last ten years, the extent of utilized agricultural areas and the number of enterprises has plummeted, substantiating a trend started in the first years of the '80s. If we concentrate on Regions with on-shore mining activity – Piemonte, Lombardia, Emilia Romagna, Marche, Abruzzo, Basilicata, Sicilia – the scenario is on the whole positive, showing a lower diminution of enterprises compared to national average, with the exception of Sicilia and Piemonte, where in any case the decrease is lower than in other areas with no mining activity.

Among the Regions with mining activities, there are the “jewels in the crown” of Italian agriculture: together, Emilia-Romagna, Lombardia and Sicilia account for a third of national agriculture gross value added. The first two, in particular, feature

better structured enterprises compared to national average, excellent import of local products , a considerable concentration of food processing industries and a high degree of product diversification. Emilia Romagna and Lombardia produce the most part of DOP and IGP certified products, reaching a 70% of national turnover for the sector.

Economic analysis does not prove any negative correlation between agricultural and mining activities: areas with stronger mining activity show similar or better trends compared to non-mining areas

In the South, Sicilia goes against the national trend with an increase of utilized agricultural area in the decade 2000-2010, and its organic farms head the list of total agricultural enterprises in the Region. Interesting results come also from Val d’Agri (Basilicata), the area with the biggest European onshore reservoir and the largest oil/gas pre-treatment plant. Analysis of structural factors which characterise the agricultural sector in the area shows that the number of agricultural enterprises has significantly decreased in the decade 2000-2010; the data is higher if compared to national average but lower than in areas with no onshore activity; on the other hand, utilized agricultural areas have increased, bucking the provincial, regional and national trend. At a more local level, data are even more important: in Viggiano, heart of the mining activity, the number of enterprises has decreased by a mere 9%, a reduction significantly lower than in the province of Potenza, Basilicata and the South of Italy and Italy as a whole. This relatively positive data is backed up by a significant increase of utilised agricultural area: the average size of agricultural enterprises in Viggiano is double than national average and three times more compared to South of Italy average (table 2).

Table 2 - Distribution of farms, utilized agricultural area, average of utilized agricultural area

	Farms		UAA (Ha)		Average UAA
	2010	Var. 2010-2000 (%)	2010	Var. 2010-2000 (%)	(Ha/farm) 2010
Viggiano	295	-9.0	4,845	12.3	16
Val d'Agri	3,689	-49.3	44,724	4.4	12
Potenza	30,292	-40.3	309,322	-3.3	10
Basilicata	51,756	-31.8	519,127	-3.4	10
South regions	691,281	-25.6	3,554.349	-0.5	5
Italia	1,620.884	-32.4	12,856.048	-2.5	8

Unexploited interrelationships

Economic analysis does not underline any negative proved correlation between mining activity and AFT structural dynamics, but it shows that O&G companies are perceived as distant from local issues, in particular agricultural ones. Sector energy costs, about 10% of total costs with local differences due to product specialisation, are the main lever on which O&G industries can act. Paradoxically, in four out of seven regions with onshore mining activity – Marche, Abruzzo, Basilicata, Sicilia – agricultural energy costs are higher than national average, while other regions are in line with national data. Interventions aimed at containing the energy bill could contribute to agricultural enterprises competitiveness, all the more desirable given the current economic situation and the ongoing reorganisation of the primary Italian sector.

There is a very interesting example in France, where an oil company, Vermillion Rep, was

interested in selling at low cost recovered surplus heat generated by oil extraction; a tomato producing farm, Tom d'Aqui, established its greenhouse in the immediate proximity and created a 10 hectare enterprise which now gives work to 160 people and counts on a reduced electricity bill. On the same principle is based an initiative recently carried out by Ragusa, a city placed in an historical agricultural area; three hydrocarbons onshore production concessions were granted in the area, including Irminio. The oil company of the same name, Irminio, operates one of the concessions and has recently inaugurated a cogeneration plant with a double aim: it uses power and heat for its own purposes and sells the surplus at convenient prices to agricultural enterprises within a 2 km radius from the plant.

With similar projects, oil companies can exploit their surplus heat and agricultural business can have an accessible, reliable and eco-friendly energy

Table 3 - Oil companies can exploit their surplus heat and agricultural business can have an accessible, reliable and eco-friendly energy source; examples in France and Italy



France: an example to follow.

Lande: successful agreement between an oil company and an agricultural enterprises: supply of low cost heat to a 10 hectare greenhouse in the immediate vicinity.

Mutually profitable objective: the oil company exploits its surplus heat and the agricultural business strongly reduces its energy bill.



Emilia Romagna: many mining activities and a florid agriculture

Represents 11% of national agricultural VA and stands out for the largest number of high quality production (PDO, Protected Denomination of Origin; PGI, Protected Geographical Indication).

Fornovo Taro (Parma): heart of the Italian Food Valley. Gastronomy and hydrocarbons reservoirs have coexisted peacefully for decades.

source. This course of action is easy to implement and demonstrates how these two very different sectors can not only coexist but also benefit from their complementarities (**table 3**).

The agricultural businesses could reap tangible benefits from lower energy bills; therefore they would have a better opinion of energy companies, regarded as distant from sustainable development models and the creation of local wealth

There is (still) a lot to be done

Combined analysis of structural and organisational factors in the agricultural sector outlines a highly differentiated scenario at regional level, with an evident line of demarcation between North and South, but this territorial characterisation has nothing to do with the presence of the mining industry. The contribution of Southern agriculture to the national GDP is higher, while the North shows better corporate structuring and a more integrated system to support the primary sector.

Proposed lines of action result from the economic research and field analysis focused on the agricultural sector. The first shows weaknesses in the agricultural sectors in mining activity areas, and indicates the main levers which O&G industry should use to increase their competitiveness; the second has improved our knowledge of ongoing successful initiatives and of the main objections expressed by local players. Many private feasible actions can be carried out: a continuous and open

communication; interventions in favour of the agricultural sector to support its development; forms of mutually profitable collaboration (**table 4**).

Fishery and Hydrocarbons: two industries, one environment

The national fishery sector is undergoing a process of reorganisation in all Regions, mainly due to the implementation of sustainable exploitation of marine biological resources, in order to favour its conservation and recovery as envisaged by European regulations. This implies the adoption of plans to control temporal/spatial access to resources, decommissioning scheme and adjustments of fishing effort (number of fishing vessels, tonnage, engine power and fishing days).

Analysis of main competitiveness factors in the fishery sector shows negative performances in all Regions: including areas with offshore mining activity, which have positive or negative dynamics compared to national average and to Regions with no O&G upstream activity

Negative performances of the fishery sector in all Regions are mainly caused by these problems. Moreover, there are specific typological/structural characteristics of regional fleets and different fish



Val d'Agri (Basilicata): agriculture is relatively resilient

Val d'Agri: the biggest European onshore reservoir is located in the area. The number of agricultural firms was halved between 2000-2010, but utilized agricultural area is increasing. **Viggiano: hub of O&G activities** where the decrease of agricultural businesses is much lower than national, regional and South of Italy average. Utilized agricultural area is increasing, as well as the average physical size of the agricultural firms which is double than Italian average.



Ragusa, Sicily: interesting synergies ahead

The prevailing peaceful coexistence between agriculture and mining industry could benefit from the new **cogenerator Irmínio**. Agricultural businesses that will start working in the proximity of the plant will benefit from the low cost heat with an evident competitive advantage. **Bronte:** mining activities in the area have not hindered the awarding of PDO to local pistachio nuts in 2009.

Action	Initiative	Objective	Characteristics
Creating a climate of trust	Communication between O&G and agriculture (e.g. visits to fields and information on production processes)	Improve acceptance of mining activity by local agricultural businesses	Opening of the cogenerator Irminio (Ragusa) was positive for agricultural and environmental associations, which had the opportunity of visiting the field, ascertain the technology used and verify security systems
Measure of involvement	Repeat the French and Sicilian (Ragusa) experiences: selling low cost surplus heat to agricultural businesses near the plant	Active support to <i>liason</i> initiatives between agriculture and mining activity with positive effects on local areas	Low cost heat from extraction activity or from cogeneration plants favours the creation of new agricultural businesses in the immediate proximity, because of the advantages coming from a low energy bill which could create new jobs and increase local wealth
Compensation measures	<p>Investments in agricultural research</p> <hr/> <p>Promotion and sponsorship of local agricultural products</p> <hr/> <p>Support of cooperatives and food-processing enterprises, especially in the South</p> <hr/> <p>Support the establishment of export consortia for local products</p> <hr/> <p>Promote access of farmers to PDO and PGI quality certification and to organic production methods</p>	<p>Improve acceptance of mining activity among local agricultural businesses</p> <hr/> <p>Promote valorisation of local products, improve SMEs competitiveness, income performance of farmers and product diversification</p>	<p>Energy research on consumption/ cost reducing technologies and on new agricultural techniques and/or varieties more resistant to external stresses</p> <hr/> <p>Valorisation and diffusion of regional agri-food excellences (organic products, PDO, PGI) would be seen as a sort of <i>royalty</i> intended for the development of the agricultural sector</p> <hr/> <p>Provide support to start up organisations and cooperatives to drive the development of SMEs and to enhance the value of local products and/or agri-food processing enterprises</p> <hr/> <p>Support the creation of consortia capable of aggregating local production and channelling it into the international market</p> <hr/> <p>Promote the increase of certified quality production. To this effect, favouring the reduction of participation costs in food quality systems could be useful.</p>

Table 4 - Agriculture and Hydrocarbons: lines of action

species – with different impact of area closures according to localisation of species concerned– which makes it rather complex, if not incorrect, to single out and assess the possible impact on fishing caused by offshore plants.

Economic analysis shows that Regions with offshore extraction activity – Emilia Romagna, Marche, Abruzzo, Sicilia – are not exempted by the ongoing reorganisation, though showing varying performances compared to national average and to Regions with no mining activity. In Sicilia, first Region for fishing, structural size of fleets show higher decreases, although not so distant, compared to national average, with visible negative impact on employment. However, Emilia Romagna, a Region with a long-standing presence of several offshore platforms, is one of the Italian area in which structural indicators show more moderate reductions, while employment actually shows a positive trend.

In view of the findings made, it is impossible to say if the presence of platforms is the cause of the ongoing dynamics or a discriminating factor *per se*, given the number of variables affecting competitiveness of the fishery sector.

However, as the two sectors operate in the same marine environment, fishery and mining industries unavoidably overlap, a fact which calls for the analysis of possible interferences and the identification of possible synergies and/or solutions in cases of conflicting coexistence. Offshore drilling plants are generally more disliked than onshore plants: it's not so much the number of complaints but their intensity, because the sea is viewed as a "common heritage" affected by a national *Nimby* effect. The current situation and the application of European rules to limit fishing effort can only exacerbate this climate of distrust. Effective management of coexistence between O&G and Fishery should follow various guidelines: effectual governance system, communication and information channels, cooperation and stakeholder engagement. Both industries should be placed in a position to create value, which implies a real *liason* between them.

Much can be learned by long standing coexistences between the two industries in countries which have made it profitable with mutual valorisation instruments and mechanisms, based on a marine environment sustainable exploitation logic.

Measures for coordination	<p>GB and Norway: oil companies are obliged to appoint a fishing expert as a coordinator among mining activities, fishing associations, government agencies.</p> <p>GB: the FishSAFE Information project aims to improve an English project improves safety of fishermen and their equipment with detailed information on mining activity and infrastructures localisation via hard or digital copy, the electronic device FishSAFE and the interactive website FishSAFE.eu</p>
Measures for compensation	<p>GB and Norway: funds are provided to cover possible losses incurred by fishermen because of offshore mining activities, in particular possible damages to fishing nets and equipment caused by presence at sea of O&G industry facilities, waste or residual materials</p>
Measures for involvement	<p>GB: O&G industry may appoint fishing vessels to monitor infrastructures during construction and installation, or to clean sea beds in areas in which oil companies have stopped operating to verify the presence of waste or residual materials</p> <p>Norway: the oil industry has carried out a successful initiative, endorsed by the Maritime Directorate, in which fishing vessels and other boats, qualified and equipped with the necessary know-how, can rapidly handle oil spills</p>

Table 5 – Commitment to studying marine environment; effective governance systems institutionalise interaction between the fishing industry, the Oil&Gas industry and the Government departments

The North Sea lesson

There is much to learn from the North Sea area. Great Britain and Norway have been able to exploit successfully their hydrocarbons reserves while safeguarding fishery, one of their most important industries. These countries are in the vanguard in promoting coordination schemes between sectors and new approaches to protect marine ecosystems. The most advanced experience has been carried out in Norway, which has started extracting oil and gas since the 1960s, becoming the second gas exporting and the seventh oil exporting country in the world. Norway is a highly environmentally friendly country, and the oil industry has always coexisted peacefully with Fishery, thanks to an advanced regulation, a strict application of environmental monitoring, cutting-edge technologies and public consultation processes (table 5).

The governance system, which institutionalises interactions between Fishery, O&G and the Government, is strengthened by a continuous study of the marine environment, of the fishing enterprises and of their impact on the environment and other activities. This context is the base for implementation of effective, practical and essential coordination, compensation and cooperation measures to manage a successful coexistence between the two sectors.

Norway and Great Britain have implemented instruments and mechanisms to limit conflicts between O&G industry and Fishery, exploiting complementarities and synergies which make coexistence profitable

Comparing Italy with Norway and Great Britain could be seen as pretentious, considering the great differences between the countries. Nonetheless, nothing prevents us from repeating, even on a reduced scale and with the inevitable adjustments to our national context, the best practices which have determined the success of Norway and Great Britain in managing the coexistence and in reducing conflict between the fishing and O&G

industries, not only in relation to existing fields but also to future hydrocarbons exploration activities. Italy has strict regulations, advanced technologies, high safety standards but lacks all the rest, with rare exceptions which are paradoxically little known.

Dialogue and collaboration are needed

Even though there is no evidence of direct damages caused by offshore installations, the Italian fishing companies show a generalised mistrust towards mining activities, which can be overcome with better communication and greater cooperation and collaboration between parties. In particular, loss of access to fishing grounds caused by the presence of platforms - as well as area closures, sector reorganizations at national level and the current economic crisis - is not mitigated by any direct benefit to local fishing companies. This situation increases conflicts and opposition to O&G operations. Where these problems have been solved, coexistence has become peaceful and in some cases profitable.



Polesine, delta of river Po

The case of Polesine

The Polesine case study, a prestigious fishing area, is emblematic: initial protests against the construction of a regasification terminal located off the Rovigo coast have been solved by dialogue between parties which has allowed a profitable negotiation of funds provided by law as compensation, restoration of environmental balance, and contribution to territorial development, partly destined to the realisation of projects useful to fishery. The effective governance system adopted

has been the strong point of the negotiation, focused on the role of the Consortium for the development of Polesine (ConSviPo, Consorzio per lo Sviluppo del Polesine), an agency close to the territory with a great experience in mediation of local issues. The presence of an only interlocutor has been the central factor in helping relationship between parties concerned. ConSviPo is still a unicum in Italy, but the experience can perfectly be repeated elsewhere.



Fertile plains of Emilia-Romagna, well known also for -gastronomical specialties

The case of Emilia Romagna

Emilia Romagna is another interesting case. Especially in view of its long standing fishing traditions and fisheries which still are a point of reference for the Italian fishing industry. There has been no major confrontation or long term opposition during the extended coexistence between the energy and fishing industries. On the contrary, during the 1970s, Agip reached an agreement with fishermen about their employment in scraping mussels from platforms. This involvement has led to the creation of cooperatives which still harvest and market bivalve molluscs picked from undersea parts of oil platforms. Thanks to this activity, Marina di Ravenna has developed a true and proper market, well-known for the high quality of its mussels which are strictly controlled by local health authorities (ASL). The profit from the activity allows cooperatives to expand their business.

The case of Pozzallo

On the institutional side stands out the experience of Pozzallo (Ragusa), a Municipality with a long standing offshore mining activity and a strong relevance of the fishing sector in its economic fabric. The Sicilian Municipality has recently appointed a commission to enter into dialogue with all the industries in the area: an important step towards a better collaboration between players operating on the territory, dedicated to local development and effective management of businesses. However, the coexistence between Fishery and O&G still leaves much scope for improvement: the local fishing sector persists in its mistrust towards the mining industry, felt as distant and not beneficial.



Landscape of Val d'Agri

Italy has various cases of profitable coexistence between Fishery and Hydrocarbons, but they are little known. The path of dialogue and collaboration is long and difficult but still feasible

In summary

The main criticism expressed by fisheries is the lack of interaction with energy companies, but the willingness to dialogue could serve as a bridge to improve future relationships. Opportunities for discussion and exchange of information should become normal practice and a basis for a mutually beneficial cooperation; the same applies to positive initiatives by the O&G industry in favour of Fishery, with increasing attention to the integrated development of local businesses (table 6).

Main points for future action

There are several possible actions, which have to be connected to the two priorities of the sector highlighted by the economic analysis and local case studies: improving the income profile of fishing companies and safeguarding employment. In the first case, interventions should be aimed at reducing the main cost item for fishing companies, i.e. fuel: on average, the expenditure represents 58% of the intermediate costs. Three out of four regions with offshore extraction activity – on the Adriatic side – show a higher incidence of such costs compared to national average: Sicilia is the only exception, with a 54% of the intermediate costs, but with a higher average expenditure per vessel compared to national average. Thus, any plan to reduce this cost could improve operator's margins, especially in an uncertain and critical economic situation as the current one. One of the main actions should be to modernise fleets to improve their efficiency and reduce fuel consumption; to make funds available to cover part of fuel costs, as was done in Polesine. Finally, alternative/complementary businesses to fishing activities, possibly mining related, would create additional revenues and limit the loss of jobs in the fishery sector (table 7).

Tourism and Hydrocarbons, no structural link

Tourism is a key sector for the Italian economy, with



North Sea: a reference model

Great Britain and Norway have aimed at the valorization of the O&G and Fishery industries, both vital for their economy, implementing the right instruments to manage effectively their coexistence while respecting the environment



Polesine: only one interlocutor

Opposition to the construction of a regasification terminal located off the Rovigo coast has lessened thanks to the mediation of the Consortium for the development of Polesine, able to represent local interests with the energy company. A model that can be repeated elsewhere.



Emilia Romagna: measures for involvement

In the 1970s, an agreement between Agip and fishermen to scrape mussels from platforms has created thriving cooperatives and a high quality mussel market in Marina di Ravenna. Negotiating tables and new involvement activities are desirable.



Pozzallo: institutional action

The Sicilian Municipality has recently appointed a commission to enter into dialogue with all the industries in the area. This is an important step towards a better collaboration between players operating on the territory, dedicated to local development and effective management of local businesses.

Table 6 – Comparing with Norway, Italy has strict regulations, advanced technologies, high safety standards but lacks all the rest, with rare exceptions, which are paradoxically little known

a contribution to national employment close to 10%, constantly increasing in the last decade. Total tourist presence is also growing, with the only exception of Marche, Liguria, Friuli-Venezia Giulia and Campania, Regions with limited O&G activities. A common feature to all Italian Regions is the radical change of the sector, although with different intensity and speed, with a higher average increase of arrivals compared to average presences. The old concept of long stays is more and more remote and there is a growing trend

to a short stay tourism in which foreign tourists play the larger role. The average stay data is decreasing at national level and is in line with a long lasting trend of shorter and shorter stays: in Italy we have dropped below the 4 days threshold.

Mining Regions show similar, sometimes better, tourist flow dynamics compared to non-mining areas. There are deep differences between Regions depending on their tourist vocation and in line with a changing sector at national level

To analyse the possible impact of mining activities on tourism, the main indicator is the trend of tourist presence in the areas, given their initial touristic vocation. Anomalous data in mining areas or near to onshore or offshore platforms would show possible cause-effect correlations and justify accusations of a negative impact on tourists and attractiveness of territories. Findings deny the correlation and exclude any structural link between the two sectors (figure 1). The growth of tourist presence in the decade 2000-2010 in Regions near to mining activity, such as Emilia-Romagna, and the decrease in areas far from platforms – such as Liguria, Friuli-Venezia Giulia and

Table 7 – Hydrocarbons and fishery: lines of action

Type	Initiative	Objective	Characteristics
Governance system	<p>Negotiating tables between fishery and O&G</p> <p>Repeating the Polesine experience: a single interlocutor representing local interests and mediating between parties</p> <p>Repeating the Pozzallo experience: institutionalising communication between local industrial players</p>	Interact and mediate between different parties with different interests, promoting dialogue to reinforce possible synergies and limit existing conflicts in order to find local development measures	<p>Institutionalising occasions for discussion with existing negotiating tables and new ones for energy companies (e.g. Tavolo Blu Adriatico)</p> <p>Appointing a single representative, approved of and legitimised by local communities (ConSviPo in Polesine) can help in safeguarding local interests and communication between players: a positive experience than can be repeated elsewhere, possibly with ConSviPo cooperation</p>
Measures for involvement	<p>Support to European project “Guardians of the Sea”: conversion plans for fleets and fishermen professional orientation</p> <p>Repeat the experience of Emilia Romagna: scraping mussels from oil platforms</p> <p>Training and qualification for fishermen/vessels to support O&G industry</p>	Promote and finance integrated/ alternative activities to fishing to diversify fishermen income	<p>Reconversion of fishing vessels into platforms to collect marine litter and lost fishing gear; providing services for tourism and leisure; monitoring protected marine areas</p> <p>Thanks to an agreement with Agip in the ‘70s, two rig scraping cooperatives were established in Marina di Ravenna, creating a high quality mussel market: an experience that can be repeated elsewhere</p> <p>Solving technical and regulatory obstacles which prevent entrusting vessels with alternative activities, such as sea bed cleaning from oil debris, transport of personnel, emergency interventions. The fishing industry would benefit from increased income and O&G could rely on a stable local economy</p>
Measures for compensation	<p>Support to local Fishery and marketing of local products</p> <p>Reducing fuel costs, main item in the Fishing industries budget</p> <p>Activation of compensation funds</p>	Promote valorisation of local products and finance projects to reduce fishermen management costs in order to compensate for area closures caused by platforms; improve acceptance of mining activity by local Fisheries	<p>Diversify fishing products trade channels to expand sales in foreign markets; support aquaculture and structure channelled systems with new production and preserving fish industries</p> <p>Possible interventions: allotment of funds to contribute to fuel costs (Polesine); modernisation of fleets to improve vessel performance, especially obsolete ones (Sicilia)</p> <p>Negotiating tables defining compensation funds to finance support projects for fishermen and territory development, as in Polesine</p>
Measures for coordination	Promote a more equitable distribution of Royalties to Coastal Municipalities	Support integrated and sustainable development of territory with multi-sectorial collaboration	Fishery-O&G coordination can favour a more effective pressure on Authorities in order to defend common interests, such as a different distribution of Royalties
Creating a climate of trust	Define and implement a more efficient and structured mutual communication system, especially on environmental matters	Respond to information needs of local communities and stakeholders, especially on matters of monitoring, to improve trust and acceptance	<p>Targeted initiatives by O&G: visits to platforms, publication of reports to explain environmental impact of the mining industry; systematize, together with local Authorities and environmental agencies, a transparent and accessible information system on mining, safety and emergency procedures</p> <p>Targeted initiatives by Fishery: needs to systematise and publish local fishing data, to define and support effective interventions for the sector</p>

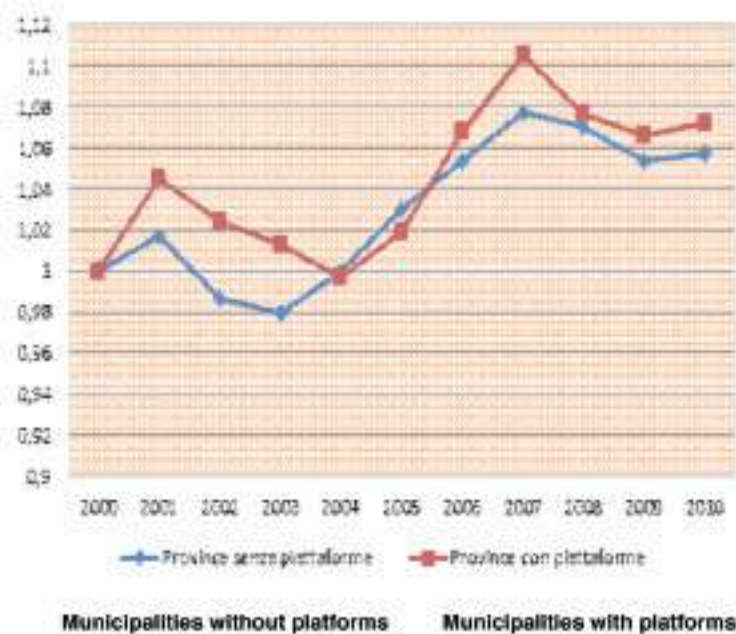


Fig. 1 – Tourist presence in the Italian coastal Municipalities

Campania – shows that the Italian tourism sector is not influenced by proximity to drilling plants. The result does not change at sub-regional level: in the decade examined, Provinces with drilling plants nearly always show better performances, albeit only marginal, as compared with the other ones.

The most comprehensive study has been carried out on the Romagna coast, which has several offshore platforms and where during the last decade tourist presence has been higher than in areas with no mining activity, for example in Versilia. The O&G industry has

not altered the touristic identity of Romagna, where tourism is still concentrated in the summer season. Finally, findings are strengthened by historical analysis of tourist flows in Romagna municipalities before and after offshore platforms became operational: there are no cases of structural breaks that could have changed the tourist trend.

Mining industry and Tourism have independent dynamics, but energy companies can promote integrated and environmentally minded interventions in favour of tourism and local development

Table 8 - Tourism and Hydrocarbons: lines of action

Type	Initiative	Objective	Characteristics
Creating a climate of trust and promoting local development	Sponsorship of local/national events financing promotional campaigns	Improving a climate of trust and promoting local development	<p>In Oman, the Tourist Directorate and Shell launched in 2004 the program "My Beautiful Oman", an initiative to support internal tourism during the summer, a low season period. The programme, which highlighted the touristic potential of the area with a detailed Guide, gave information on promotions, places of attraction, hotels, restaurants, car rental, tour operators and diving centres: 300,000 copies of the guide, in Arabic and English, were distributed in 40 Shell stores throughout the country</p> <p>In 2004, Shell has invested \$800.000 in an initiative to support eco-cultural tourism promoted by America's Westland Association and the State of Louisiana. The fund financed and distributed information to sponsor the "A Place Called America's Westland" initiative to support Louisiana marshes as a tourist attraction for residents and visitors</p> <p>The case of Polesine: ConSviPo has negotiated with Adriatic LNG funds to finance the presentation of local products to "Vinitaly" event, attended by many fisheries of the Polesine area</p>
	Support to eco-cultural tourism, valorising local scenic attractions		
Measures coordination for	Support food tourism with agreements with important exhibitions and/or events	Promote an integrated and sustainable development of the territory through intersectoral tourism-fishery collaboration	<p>Provide financial contribution to coastal landscape integrated requalification for a better environmental protection and an economical valorisation of coasts</p> <p>Tourist associations - O&G coordination can favour a more effective pressure on Authorities in order to defend common interests, such as a different distribution of Royalties, more favourable to coastal Municipalities, and allocate more financial resources to territory development</p>
	Promote coastal requalification projects		
	Promote a more favourable division of Royalties for coastal Municipalities		

Possibile coesistenza dell'industria estrattiva con i settori agricoltura, pesca e turismo

Questo articolo è una sintesi dello studio condotto dal Rie (Ricerche Industriali ed Energetiche) sul possibile impatto delle attività upstream dell'industria dell'oil & gas (O&G) sui settori agricoltura pesca e turismo (APT).

Lo studio muove dall'analisi delle argomentazioni espresse dalle opposizioni – specie locali – all'attività mineraria, accusata di compromettere questi settori vitali. Questo ha contribuito al formarsi di un atteggiamento pregiudizialmente contrario di larga parte dell'opinione pubblica verso l'industria dell'O&G ostacolando la valorizzazione delle riserve di idrocarburi estraibili e di quelle potenzialmente individuabili con attività di ricerca.

Al contrario, l'analisi economica e la ricerca sul campo dimostrano come i settori dell'O&G e dell'APT possano coesistere con successo in un medesimo ambito territoriale, ma al contempo evidenziano l'esigenza di migliorare la comunicazione e il dialogo del sistema petrolifero verso gli attori locali, elementi necessari per scardinare quella spirale di sfiducia e diffidenza che impedisce un'interazione virtuosa tra loro.

Raddoppiare la produzione di idrocarburi è un'opportunità per il nostro paese, la sua crescita economica, la sua competitività. Farlo investendo nello sviluppo locale costituisce un'imprescindibile linea di azione.

From words to action

• In Italy, one mining permit out of two is contested

There is a widespread belief that drilling activities are damaging for traditional economic sectors –Agriculture, Fishery and Tourism (AFT); this has led to a prejudicial distrust towards the O&G industry, with a negative impact on the valorisation of probable reserves and exploration activity.

• Widespread criticism gives strength to general opinion but there is openness to dialogue

Analysis of criticism expressed by AFT sectors boils down to one main issue: the absence of interaction between energy company and territory, economic activities included. Poor communication between parties, insufficient consultation and discussion mechanisms, widespread bad/disinformation on incomplete or incorrect arguments have consolidated false myths on made in Italy O&G. However, AFT sectors do not unconditionally refuse the mining industry but are open to dialogue. Something to support.

• Arguments put forth by opposition are not confirmed by economic analysis of AFT sectors performances

On the whole, AFT structural dynamics in mining areas are in line with national average trends; in some cases, they show better performances compared to non-mining areas.

• Agriculture and Hydrocarbons: independent dynamics

Regions with O&G activity do not show anomalous dynamics. On the contrary, Emilia Romagna, Lombardia and Sicilia cover one third of national agricultural value added and are the jewels in the crown of Italy's agriculture. Emilia Romagna and Lombardia have a structured channelled system and hold the record for high quality production.

• Fishery and Hydrocarbons: two industries, one environment

The Italian fishing sector is undergoing a profound reorganisation, with negative performance in all Italian Regions. Trends in mining areas are substantially in line with national performances, with slight positive or negative deviations from national average and non-mining areas.

As many variables affect the competitiveness of Fishery, offshore drilling platforms cannot be considered *per se* a decisive factor for the sector.

• Tourism and Hydrocarbons: no structural link

Analysis of regional and provincial tourist flows does not show any correlation between drilling platforms and tourism sector performance. The case of Romagna is indicative: tourism here is growing and in any case better than in Versilia, a similar coastline but devoid of mining activity.

• Refuting accusations is not enough

The O&G industry should insist on communication, transparency and attention to local development to promote a radical change of attitude, the only way to create an almost totally inexistent climate of trust. Guided visits to wells, constant information on processes and technologies, clear and ongoing communication on environmental impact of mining activity are important steps towards social acceptance.

• Successful coexistence is possible

Best practices for a peaceful and fruitful coexistence between AFT and hydrocarbons are many. A lot can be learned by those who are in the vanguard in managing this coexistence, as the North Sea Hydrocarbons - Fishery relationship. In Italy there are similar successful initiatives, inexplicably little known but repeatable.

• A range of actions can be implemented

A successful coexistence is possible with attention to local development and creation of benefits for the territory. The most appreciated interventions are those which allow to gain in competitiveness. For example, mutually profitable agreements as low cost surplus heat sale to neighbouring agricultural businesses; interventions to improve fishing vessels efficiency; involvement of fishermen in O&G related activities; actions to solve main weaknesses in local AFT sectors.

• Together, we can

The role of Authorities is decisive in managing the coexistence between two entirely different economic activities. Nonetheless, many actions can be carried out by private parties. Openness to dialogue by AFT could serve as a bridge to develop future relations based on trust and transparency and to join forces in submitting requests to Institutions, for example regarding royalties redistribution.



Alberto Clò

Professor in Applied Economics at the Faculty of Economics of Bologna University, where he holds courses in "Industrial Organization" and "Economics of Public Utilities". Chief Editor of "Energia" since 1984, energy review founded in 1980 with Prof. Romano Prodi. Appointed Minister of Industry and ad interim Foreign Trade Minister by the Lamberto Dini Government in 1995-1996. President of the Council of Industry and Energy Ministers in the first six months of UE Italian Presidency in 1996.



Lisa Orlandi

Economist and oil analyst, participates in national and international energy projects and market analyses. Constantly follows oil market trends with monthly and quarterly monitoring and forecasting reports; writes for specialist magazines and publications on international oil market dynamics; analyses energy investment and scenarios, as well as oil&gas companies business and communication strategies. Coordinates programming of weekly analyses for a web portal on energy matters. Has coordinated the study "Coexistence between Hydrocarbons and Territory in Italy" contributing with the chapter "Agriculture and O&G – Case studies and lines of action". Member of "Energia" energy review Editorial Board.



Agata Gugliotta

International energy policy analyst, studies the geopolitical aspects of main hydrocarbons producing countries; is specialised in monitoring coal and gas energy markets and financial commodity markets. Collaborates on programming of weekly analyses for a web portal on energy matters. Sicilian of origin and permanent residence, in the study "Coexistence between Hydrocarbons and Territory in Italy" has dealt with the Ragusa and Pozzallo case studies, carried out with the aid of field research and interviews to local stakeholders.



Filippo Clò

Researcher on energy issues, mostly related with hydrocarbons development, in particular energy security, policies of producing and consumer countries, investment dynamics and trends, energy geopolitics, corporate strategies and their approach at local level. On the Italian front, has collaborated on the study "Oil and Gas in Italy: an opportunity for growth", analysing the Italian mining industry and its districts. In the study "Coexistence between Hydrocarbons and Territory in Italy" has investigated the areas of interaction between Fishery and mining activity and the North Sea experience.



Chiara Proietti Silvestri

International energy policy analyst with a focus on the political and economic dynamics related to main global energy issues: nuclear energy development, impact of unconventional fossil fuels and consensus-building processes. Contributes to reports on investment trends and global energy scenarios. In the study «Coexistence between Hydrocarbons and Territory in Italy» has dealt with the Polesine and Emilia-Romagna case studies (fishery and oil&gas), carried out with the aid of field research and interviews to local stakeholders.



Mattia Santori

Graduated in Economics and Law from Bologna University. Deals with energy, social and environmental issues, with particular attention to participation and inclusion processes in public policies. Constantly monitors arguments raised by Italian and international public opinion on energy matters. Has contributed to the study "Coexistence between Hydrocarbons and Territory in Italy" with the chapter "O&G in Italy: who protests and why", showing evidences of an extensive research which classifies views of main opposition movements to hydrocarbons.



Massimo Spigola

Agricultural economist specialised in policies to support agri-food industries and rural economies. Holds a PhD in Local Development Economics and has conducted several courses at various Universities and post-graduate Institutes of Management Studies. Has cooperated with Regional authorities and agencies in the planning phases of EU policies to support the primary sector and has written several articles on the subject. He is currently member of the Editorial Board of the "International Agricultural Policy" magazine. Has contributed to the study "Coexistence between Hydrocarbons and Territory in Italy" with the chapter "Agriculture – A sectorial analysis".



Chiara Volpato

Economist, has worked with private research institutions carrying out studies and analyses at national and international level. Is mainly involved in studying the agri-food chain, its various phases and the respective socio-economic, environmental and territorial systems, analysing and processing statistical data from national and international sources, as well as designing and implementing economic sectors' monitoring. Has contributed to the study "Coexistence between Hydrocarbons and Territory in Italy" with the chapter "Fishery – A sectorial analysis".



Silvia Zucconi

Ed in Statistics, holds a PhD in Agricultural and Food Economics. Expert in market analysis and consumption patterns. Has developed extensive experience in designing and coordinating economic sectors' monitoring and surveys for companies and consumers at national and international level. Has conducted several studies and surveys for the EU Commission, Public Authorities, Trade Associations, Professional Organizations and private enterprises. Has contributed to the study "Coexistence between Hydrocarbons and Territory in Italy" with the chapter Agriculture – A sectorial analysis".



Giovanni Marin

Phd in Economics, Markets and Institutions from IMT, Institutes for Advanced Studies of Lucca. Visiting researcher at University of California, Department of Economics (Berkeley). Main research issues are analysis of the impact of environmental innovation on economic and environmental performance, analysis of environmental input-output and, more in general, empirical research on environmental and innovation topics. Has contributed to the study "Coexistence between Hydrocarbons and Territory in Italy" with the chapters "Tourism – a sectorial analysis" and "Tourism and oil&gas. Case studies and lines of action".



Francesco Nicolli

PhD in Applied Economics from the University of Ferrara, Department of Economics and Management. Master of Science in Environmental and Natural Resource Economics from Birmingham University, UK. Expert in evaluating public and European waste management policies and analysing the impact of environmental innovation on economic and environmental performance of companies and economic sectors. Has contributed to the study "Coexistence between Hydrocarbons and Territory in Italy" with the chapters "Tourism – a sectorial analysis" and "Tourism and oil&gas. Case studies and lines of action".



Engineering Contractors & Process Equipment Suppliers

Siirtec Nigi is a leading engineering and contracting company operating internationally in the field of sulphur recovery, acid gas removal, oil and gas processing and environmental clean up. The company has considerable experience in the design and supply of skid-mounted and modular packages and plant. Decades of service to the oil, refining, gas and petrochemical industry has enabled the company to develop considerable skills and know-how in the field of acid gas treatment, sulphur recovery, tail gas clean up, sulphur degassing and gas incineration

Our main licences and proprietary know-how

- Sulphur recovery (modified Claus, Advanced Ammonia Claus, oxygen enriched Claus)
- Claus tail gas treatment (HCR™ - High Claus Ratio)
- Sulphur degassing
- Gas dehydration (Ecoteg™, Drigas™)
- Ammonia thermal dissociation

Highlights

- Acid Gas Treatment and Sulphur Recovery
- Gas Treatment
- Oil and Gas Field Development
- Equipment and Packages Supply
- Onshore, Offshore, Upstream and Downstream installations
- Feasibility Studies, License supply, FEED, EP and EPC

Field of activities and Services

- Feasibility studies, process studies and technology selection, basic engineering, front-end engineering and detail engineering, procurement, plant erection supervision, start-up assistance and post-sales assistance.
- Supply of plants on EP and EPC basis. Supply of modular or skid-mounted units.
- Licensor of specific technologies expertise in gas treatment, acid gas removal and sulphur recovery
- Over 500 projects developed for onshore, offshore, upstream and downstream installations



SIIRTEC NIGI S.p.A.
Via Algardi, 2 - 20148 Milan, Italy
Phone: +39 0239223.1 - Fax: +39 0239223.010
For inquiries and information:
Email: commercialdept@sini.it - Website: www.sini.it