The development of Tempa Rossa project brings together two global oil companies. At Total side, with Total E&P Italia S.p.A. (as unique representative and operator of the concession), Shell group with its Italian affiliate Shell Italia E&P S.p.A. and Mitsui with its Italian affiliate Mitsui E&P Italia B S.r.l.

**WHO ARE WE?**

**2012 data**

**Group now employs some 97.000 people**.

With a presence in over 130 countries, the Group is one of the world's top five oil companies. The Group’s chemicals division is a major player in the petrochemical and chemical sector, where the Group operates through brands Total Petrochemicals, Total Specialties and TotalErg. With oil and gas production of over 2,3 million boe per day in 2012 and proven reserves of 11,4 billion boe, the Total Group is also one of the world’s top ten companies in terms of reserves.

**Total E&P Italia S.p.A. in figures**

- 3 offices: head office in Rome, representative office in Potenza and operational office in Guardia Perticara (PZ).
- 300 employees.
- 6 exploration permits and/or concessions, 5 of which as operator, in Basilicata.
- Pasteur office in Potenza and operational office in Guardia Perticara (PZ).
- TOTAL S.A. (49%) and ERG S.p.A. (51%) of Sarpom Trecate refinary (Italy). Significant activities also in the distribution of petroleum products (over 12% market share), holds 100% of the Rome Logistic terminal and 26% share of the Sarpom Trecate refinary (Italy). Significant activities also in the petrochemical and chemical sector, where the Group operates through brands Total Petrochemicals, Total Specialties and TotalErg.
- **Value-adding processes** in Italy: the Group currently holds a 1.5% share of the Sarpon Trecate refinary (Italy).
- **2012 data**
  - 2012 estimated investment: 1,6 billion of euro.
  - 6 exploration permits and/or concessions, 5 of which as operator, in Basilicata.
  - 3 offices: head office in Rome, representative office in Potenza and operational office in Guardia Perticara (PZ).
  - 300 employees.

**Regional resources**

**Valorising** Tempa Rossa

**2012 data**

- **25%**.
- Shell Italia E&P and Total E&P Italia hold, each one, 25%.
- Mitsui E&P Italia B hold 50% of the project, Total E&P Italia holds 50% of the project. Total and Mitsui are the partners in the joint venture financing the project. In the project, Total E&P Italia holds 50% of the concession, while Total with its Italian affiliate Total E&P Italia S.p.A. (as unique representative and operator of the concession), Shell group with its Italian affiliate Shell Italia E&P S.p.A. and Mitsui with its Italian affiliate Mitsui E&P Italia B S.r.l.

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The project location

Tempa Rossa is an oil and gas field in the upper Sauro valley at the heart of the Basilicata region in southern Italy. This concession is mainly centered on the district of Tempa Rossa (PL), 8 kilometres from the main transport centers. The site is located near the Capo Spulico and Tempa Rossa hydrocarbon storage centres.

The project involves

- An interregional project: Since the Tempa Rossa field is only 8 kilometres from existing infrastructures, it will be relatively simple to feed the gas it produces into the local SNAM distribution network and transport the oil to the "Viggiano-Taranto" pipeline. This 51-cm diameter pipeline is 136 kilometres long (96 kilometres within Basilicata) and links the neighboring Val d’Agri oil installations to the Taranto refinery and its export terminal.
- A project demanding technical expertise and tailored solutions: discovered in 1989, this field in the Gorgoglione concession is quite unique in terms of the type of hydrocarbons it contains (diesel oil of between 20° and 25° API with a high carbon content) and its environmental context. Located between the Regional Nature Reserve of Gallipoli-Cognato and Pollino National Park, this concession lies at the heart of a highly significant area for the local environment, biodiversity, the economy, and for the preservation of important geological and archaeological heritage.

The project objectives

The project’s objectives are to achieve the following:

- Production: The development of the Tempa Rossa field within the Concession of Tempa Rossa and Gorgoglione will be managed by Total (as the main operator) and its partners, Total Italia S.p.A., Total E&P Italy S.p.A., Total Italia (SP) S.p.A. and Total Italia (SP) S.p.A. (as the concession holders).
- Environmental protection: The development of the Tempa Rossa field will be carried out in such a way as to protect the environment and natural resources while maximizing the efficiency of the project. To this end, Total and its partners are committed to implementing rigorous environmental management practices throughout the project.
- Social development: The project will contribute to the socio-economic development of the local community through job creation, local content, and community engagement programs.
- Safety and health: The health and safety of all workers will be a top priority throughout the project, with strict adherence to international best practices and regulations.

The project site

The project site is located near Guardia Perticara and involves the construction of a new LPG storage centre with a capacity of 3,000 m³. It will also include four road tanker loading points equipped with safety systems to prevent any possibility of leakage or spillage.

The Oil Centre at Corleto Perticara

The future Oil Centre at Corleto Perticara will be a state-of-the-art facility for the separation and processing of hydrocarbons produced in the Tempa Rossa field. It will have a daily processing capacity of 50,000 barrels of oil, 230,000 m³ of gas, 240 tonnes of LPG, and 80 tonnes of sulphur. This centre will be equipped with state-of-the-art technology and infrastructure to ensure operational safety and environmental sustainability.

The LPG storage centre at Guardia Perticara

Perfectly integrated into its environment, the future LPG storage centre at Guardia Perticara will feature two underground tanks with a total capacity of 3,000 m³. This centre will also include four road tanker loading points equipped with safety systems to prevent any possibility of leakage or spillage.

An exemplary project in the making

The project is an example of Total’s commitment to sustainable development. By adopting the most advanced industry standards and employing highly qualified personnel, Total is able to maximize operational efficiency and environmental performance. The project is designed to contribute to the socio-economic development of the local community through job creation, local content, and community engagement programs. It also prioritizes safety and health, with strict adherence to international best practices and regulations. The project will be delivered in a manner that minimizes environmental impact and maximizes efficiency, ensuring that it meets the highest standards of operational safety and environmental protection.

For the safety and health protection of workers and the population, Total adopts the most advanced industry standards and employs highly qualified personnel. Each potentially risk activity is preceded by a specific assessment to determine all appropriate measures to minimize risks to humans. The location of industrial sites and pipeline routes was identified to minimize impact on the area. Studies of impact on ecosystems were conducted for the protection of air, water, soil, and flora and fauna. The limitation aspects of noise will be carried out during preparation, construction, and production.

For the safety and health protection of workers and the population, the LPG storage centre at Guardia Perticara will feature two underground tanks with a total capacity of 3,000 m³. This centre will also include four road tanker loading points equipped with safety systems to prevent any possibility of leakage or spillage. Total’s commitment to operational safety and environmental protection ensures that the project is delivered in a manner that maximizes efficiency and sustainability.
The Tempa Rossa project involves development of an oil field within the Gorgoglione concession in the Basilicata region of southern Italy. The field lies mainly within the commune of Corleto Perticara (PZ).

The development scheme
Total, as operator of the field, will implement a development scheme comprising the following elements:

- Construction of an Oil Centre named "Tempa Rossa".
- Connection of the 6 existing wells to the Oil Centre for production, and of the 2 new wells to be drilled after obtaining authorizations.
- Construction of an LPG Centre in the industrial area of Guardia Perticara for storage of the LPG produced.
- Construction of 4 pipelines: one from the Oil Centre to the Val d’Agri-Taranto pipeline for transporting oil, one to the national gas grid for methane, one to the storage centre for LPG and one for water supply.

Environmental preservation measures
With the clear objective of minimising the project's impact on the environment and surrounding countryside, reforestation and site restoration is planned for all areas affected by the project. These operations will be carried out using the most advanced environmental engineering techniques and in compliance with the directives of the Italian Environment Ministry.

The project partners
The development of Tempa Rossa project brings together two global oil companies. At Total side, with its affiliate Total E&P Italia S.p.A. (as unique representative and operator of the concession). Shell group with its Italian affiliate Shell Italia E&P S.p.A. and Mitsui with its Italian affiliate Mitsui E&P Italia B S.r.l.

- Total E&P Italia 50%
- MEPIT Mitsui E&P Italia B S.r.l. 25%
- Shell Italia E&P S.p.A. 25%
The Tempa Rossa Oil Centre
The Oil Centre will be equipped with facilities for treating the hydrocarbons coming out of the wells so as to obtain petroleum products that meet commercial specifications. The facilities will also allow these products to be transported under the safest possible conditions. The plant will be located some 4 kilometres from the village of Corleto Perticara. The maximum treatment capacity of the plant will be about 8,000 cubic metres (about 50,000 barrels) per day of oil. The products exported from the Oil Centre will be oil, gas, liquefied petroleum gas (LPG) and sulphur. The site was carefully chosen from among those proposed in order to limit the impact on the environment and minimise the technical complexity. The Oil Centre will be in a central location with respect to the existing production wells.

Comprehensive facilities
A water treatment module will be built within the Oil Centre to treat rainwater and groundwater in order to ensure that all discharge is completely non-polluting. The electric power required by the Centre will be generated by dedicated facilities using turbines fired by natural gas produced within the Centre. Connection to the national power grid is also planned.

The crude oil will be stored in two tanks and exported by pipeline in batches. For the purpose of calculating the royalties, metering equipment will be installed and verified by the relevant Italian authorities.
One field, several products
This schematic block diagram of the Tempa Rossa Oil Centre shows both the process facilities and the sequence of operations. It also details the flow of the main products.

Appropriate health and safety precautions
The Tempa Rossa site will be fitted with all the necessary equipment to ensure that any process-related emissions are kept to minimum levels. The facilities will be designed and operated in full compliance with environmental regulations.

The site will also be equipped with a safety flare. In addition to the continuous monitoring of emissions at the Oil Centre, an air quality monitoring station will be set up nearby, between the Centre and the neighbouring residential areas of Corleto.

Buried export pipelines
Four fully buried connection pipelines are planned for the transport of crude oil, methane gas and LPG, and to provide the water required by the Oil Centre. They will follow the same route for about 8 km, linking the Oil Centre to the bottom of the Sauro Valley.

The crude will be transported to the existing Val d’Agri-Taranto pipeline. The control and safety systems of the Tempa Rossa pipeline will be similar to those of the existing pipeline to which it is connected.

The methane gas will be piped to the national gas distribution network.

The LPG produced by the Oil Centre will be transported by pipeline to the LPG storage centre near Guardia Pertiaca.
The LPG storage centre
The facilities for storing LPG (liquefied petroleum gas) will consist of two horizontal tanks that are completely buried. The storage capacity of each tank will be about 1,500 cubic metres. The LPG stored will be exported from the centre by tanker truck. There will be three loading stations equipped with appropriate pumps to fill the trucks. In addition to these facilities, the centre will be equipped with a water tank.

The wells and gathering network
In a typical production well, the geological layers above the hydrocarbon formation are isolated from the well by cemented concentric casings and liners to ensure their hydraulic seal and prevent any contamination of the earth and water resources.

The hydrocarbons will be produced using pumps installed at the bottom of the well. Once the oil reaches the surface, it will be transported to the Oil Centre via a system of flow-lines buried at a depth of 1.5 m.

Production capacities

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<tr>
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<tbody>
<tr>
<td>Oil</td>
<td>50,000 barrels/day</td>
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<tr>
<td>LPG</td>
<td>240 tons/day</td>
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<tr>
<td>Commercial Natural Gas</td>
<td>230,000 m³/day</td>
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<tr>
<td>Sulphur</td>
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