

# Unconventional Resources

## Integrated Solution – Global Reach

### What We Do

Petroleum Development Consultants Limited (PDC) provides advice to the upstream oil and gas industry. Based in our offices in London, our teams of engineers and geoscience staff solve problems and help oil and gas companies across the globe succeed with the challenges of the modern industry.

Unconventional oil and gas resources are increasingly important in the quest for energy security. The success of developing some of these resources in North America has led to the opening up of new markets globally.

### How We Can Help

PDC has assisted a number of companies and governmental agencies in the search and development of these unconventional resources. Using a flexible approach of using links to technology providers and skills from North America and using knowledge and skills from the conventional oil and gas industry we have provided technical and commercial assistance to projects.

We have the subsurface and engineering capabilities to plan field developments and subsurface studies to explore and exploit resources.

### Past Experience

**Europe** – Field development planning for tight gas field later leading to EPC of the gas processing facilities

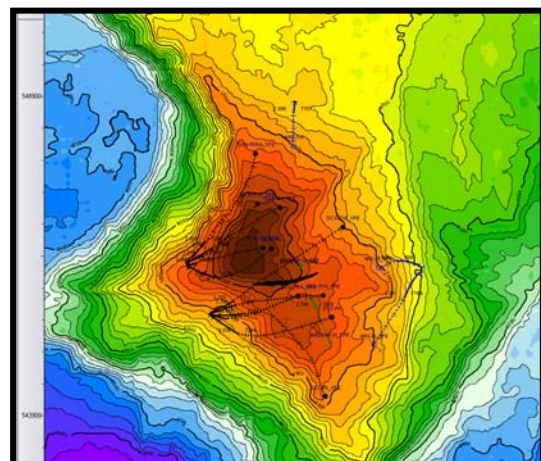
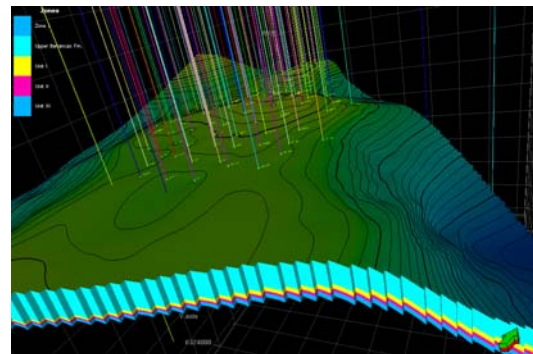
**Colombia** – Formulating model contract and regulatory regime for the exploration and production of unconventional resources within the country

**Poland** – Field development study and economic evaluation of the Siekierki gas field.

**Europe** – Commerciality and development study of tight gas field with focus on evaluating well flow rate after fracking



- **Integrated Subsurface Studies**
  - **Reserves Certification**
- **Field Development Planning**
  - **Project Management**
    - **Due Diligence**
- **Exploration & Production Policy**
  - **Negotiations**
  - **Market Analysis**
- **Regulation & Liberalisation**
  - **Expert Witness**



## Examples of Our Work:

### Integrated Subsurface Studies

**Argentina** – G&G, reservoir engineering & engineering study for the redevelopment of a mature oil field.

**PNG** – Integrated team comprising G&G, reservoir engineering team to evaluate onshore gas field

### Reserves Certification

**Africa** – Technical reserves report was composed for a billion barrel oilfield for the raising of funds from a consortium of banks

**Africa** – Technical reserves were prepared as part of a due diligence study for the acquisition of a gas field in Nigeria

### Field Development Planning

**Argentina** – Prepared re-development plan for RepsolYPF for the Lunlunta-Carrizal field in production since 1950 concentrating on workovers and infill vertical and horizontal wells

**Abu Dhabi** – Carrying out a project for ADMA-OPCO developing field plans for two large offshore oil fields in production for thirty years. Field development plans to cover the next 35 years of production.

**Romania** – Leading development of three gas fields in northern Romania and carrying out gas sales negotiations

### Project Management

**Romania** – Project managed the EPC of the gas processing facilities of the Bilca gas field

### Due Diligence

**Nigeria** – Data room study for a major gas company to provide an independent overview of a gas asset

**Romania** – Advising Gazprom on acquisition of gas distribution company

### Exploration & Production Policy

**Kenya** – Advising National Oil Company of Kenya on improvement of E & P policy and particularly addition of specific gas terms

### Market Analysis

**Egypt** – Prepared study on the gas market for US independent oil company

**Russia** – A number of studies have been carried out including a market study of potential oil and oil production exports through Tallin, Estonia on behalf of the purchaser of Estonia Rail. Study of oil and oil product exports from the Caspian through Poti Port, Georgia on behalf of the EBRD

### Regulation and Liberalisation

**Russia** – Assisting Ministry of Energy to develop scenarios for gas liberalisation on behalf of EU Delegation, Moscow

**UK** – Acted as technical advisor to the Office of Gas and Electricity Markets (Ofgem) as part of the Price Regulation 2002-7 of Transco the monopoly gas transmission and distribution operator

### Expert Witness

PDC has provided expert witness services at a number of international courts including the Arbitration Courts in Stockholm, Copenhagen, Singapore and London.

### Negotiations

**Vietnam** – Acted as advisor to PetroVietnam in the negotiation of gas contracts with BP to develop the offshore Nam Con Son gas fields leading to total investment of \$2.5 billion

**Ireland** – Supported the negotiation of a gas contract for offshore gas field with RWE Energy

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