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# OIL AND GAS

A REPORTER'S HANDBOOK

This handbook was produced as part of the Wealth of Nations programme, run by the Thomson Reuters Foundation and funded by Norad, the Norwegian Agency for Development Cooperation.

The programme is run in collaboration with some of Africa's leading organisations promoting excellence in journalism: The African Centre for Media Excellence (ACME), The African Centre for Training of Journalists and Communicators (CAPJC), The Centre d'Études des Sciences et Techniques de l'Information (CESTI), The Institute for the Advancement of Journalism (IAJ) and New Narratives.

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Centre Africain de Perfectionnement des Journalistes et Communicateurs

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# ACRONYMS

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<b>API</b>	American Petroleum Institute	<b>HGA</b>	Host Government Agreement
<b>BoE</b>	Barrel of Oil Equivalent	<b>IEA</b>	International Energy Agency
<b>CBM</b>	Coalbed Methane	<b>IOC</b>	International Oil Company
<b>CGG</b>	Compagnie Générale Géophysique	<b>IPCC</b>	UN Intergovernmental Panel on Climate Change
<b>CNOOC</b>	China National Offshore Oil Company	<b>IRR</b>	Internal Rate of Return
<b>CSO</b>	Civil Society Organisation	<b>LDC</b>	Liquidated Damages Clause
<b>CSR</b>	Corporate Social Responsibility	<b>LNG</b>	Liquefied Natural Gas
<b>E&amp;P</b>	Exploration and Production	<b>NGL</b>	Natural Gas Liquid
<b>EIA</b>	US Energy Information Administration	<b>NGO</b>	Non-Governmental Organisation
<b>EIA</b>	Environmental Impact Assessment	<b>NOC</b>	National Oil Company
<b>EIS</b>	Environmental Impact Statement	<b>NRGI</b>	Natural Resource Governance Institute
<b>EITI</b>	Extractive Industries Transparency Initiative	<b>OPEC</b>	Organisation of the Petroleum Exporting Countries
<b>EOR</b>	Enhanced Oil Recovery	<b>PSA</b>	Production Sharing Agreement
<b>ERR</b>	Economic Rate of Return	<b>PSC</b>	Production Sharing Contract
<b>ESIA</b>	Environmental and Social Impact Assessment	<b>PWYP</b>	Publish What You Pay
<b>FPSO</b>	Floating, Production, Storage and Offloading Unit	<b>WTI</b>	West Texas Intermediate



# INTRODUCTION

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Without energy, the world economy as we know it would collapse.

Since the start of the Industrial Revolution in the 18th century, fossil fuels have supplied much if not most of that energy.

Today, oil, coal and gas meet three-quarters of our needs. The oil and gas industry alone generates revenue running into several trillion dollars each year. It's a market that can offer a producing country a one-off opportunity to change life for the better... for everyone.

Experience has shown that that does not always follow. Oil production, in some countries, has been a curse instead of a blessing.

Translating wishful thinking into reality depends on how the resources, and the revenue from them, are earned, managed and spent.

This is where you come in. You, the journalist, have a vital role to play.

This handbook will not teach you everything you need to know about the oil and gas industry. It's more of an introductory guide to help you get your bearings. It will offer you a few pointers and, hopefully, stimulate your natural curiosity.

The rest is down to you!



# THE STORY

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## A SPECIALIST SUBJECT?

Not every news organisation can afford the luxury of specialist reporters. All too often, you can find yourself covering a cultural story one day and a political story the next.

That, in itself, is not a problem. Understanding what makes the oil and gas industry tick can help you across a range of stories. Oil and gas is a political story, a business story or an environmental story. It's a financial story, a technological story or a social story. It's about jobs, the cost of your ride to work or the price of the food on your plate. It's about access to health care, to education or to electricity. Above all, it's a story about people.

## A NATIONAL RESOURCE?

In most producing countries, oil and gas are a national resource. As such, they are a legitimate topic of national debate. At one level, that debate is about policy. At another, it's about accountability. At another, it's about opportunity. All too often, that debate takes place away from the public eye. A lack of transparency on the part of the industry and government may be to blame, or perhaps a lack of interest or understanding on the part of the public. This is where you, the journalist, can make a difference. Your reports can open people's eyes to what is happening - or to what could or should be happening - and inform a local or national debate on the best way forward.



REUTERS: ATHIT PERAWONGMETHA



REUTERS: ATEF HASSAN



## IN THE BEGINNING

Oil and gas began as plankton, tiny plants or animals in a sea or lake. They “bloomed”. They died. Their remains sank. Time passed. Sediment, brought by rivers, formed in layers on top of their remains. Bacteria and then intense pressure and heat worked unseen. Millions of years passed. Successive layers of sediment formed sedimentary basins. The plankton remains became hydrocarbons, the mix of carbon and hydrogen atoms that is oil or gas.

## CONVENTIONAL OIL AND GAS

The hydrocarbons formed in what geologists call the source rock. Some migrated through tiny cracks in porous rocks above them, and found their way to the surface as oil or gas “seeps”. Do you have these in your country?

Other hydrocarbons found themselves trapped by a layer of impermeable rock, and collected in the porous rock like water in a sponge.

These traps contain pools or reservoirs of oil or gas that can be extracted easily and relatively cheaply using conventional methods such as drilling a vertical well. Is your oil like this?

## UNCONVENTIONAL OIL AND GAS

Some hydrocarbons are far more difficult and expensive to extract or process, because of where they are found.

**Deepwater** or **pre-salt** oil or gas lie beneath the ocean floor.

**Tight** or **shale** oil or gas are trapped underground in fine-grained rock that is not very permeable.

**Oil sands** are rich in bitumen or tar that is costly to extract and turn into oil.

**Methane hydrates** lie in permafrost on or below the ocean floor. They look like ice but the methane gas trapped inside them is inflammable.

**Coalbed methane** (CBM) is gas found with coal and can be costly to extract.

Extraction in each case depends on local conditions, the technology available and oil and gas prices. If prices tumble, as they did in early 2015, production can become uneconomical.



A SUMMER PLANKTON “BLOOM” IN LAKE ONTARIO

# A LITTLE HISTORY

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## THE DAWN OF THE OIL AGE

Man has known about hydrocarbons for thousands of years, initially using oil or pitch that seeped to the surface to light torches or waterproof pots, boats or buildings.

The Arabs took things a step further over a thousand years ago when they distilled seep oil into paraffin for lamps. The same process is used today to distil whisky.

In 1853, a Polish chemist, Ignacy Lukasiewicz, found a way of mass-producing paraffin or kerosene as it had become known, and effectively ushered in the Oil Age.

## THE RISE OF THE MOTOR CAR

For centuries, Baku in present-day Azerbaijan was associated with trade in Black Gold as seep oil was known. The world's first oil well as we now know them was drilled there under the supervision of a Russian engineer in 1847. The first drilled US well followed in 1859.

Initially, the oil provided fuel for lamps in the form of kerosene. As the market grew, the hunt for new sources of oil intensified. The invention of the internal combustion engine and the mass-production of the motor car from 1908 sent demand for oil soaring, particularly in the United States.

## THE BIRTH OF THE OIL GIANTS

The U.S. oil boom began as a free-for-all but soon a new breed of company took control of the market.

Standard Oil, founded by J.D. Rockefeller in 1870, emerged as the first oil giant. It went on to become Esso and then ExxonMobil.

Britain's Shell transport and trading company and the Royal Dutch oil company, with interests in Sumatra, merged in 1907 to compete.

The Anglo-Persian Oil Company, which became BP, emerged as an oil producer in the Middle East in 1909.

Other oil giants emerged. As demand increased, Western powers and companies searched for and developed overseas oil reserves and extended their control over supply.



REUTERS: DAVID MDZINARISHVILI



# A LITTLE ECONOMICS

## SUPPLY AND DEMAND

A bumper tomato crop can be good news for a farmer... or bad. Too many tomatoes saturate the market. Competition kicks in. Prices fall.

It's the same with any market, whether it's for hats, houses or hydrocarbons. **Supply** determines the value of whatever is for sale, but it's not the only factor.

At the height of China's economic boom, **demand** for oil and gas kept prices high. The 2008 economic crisis changed that. It hit demand for Chinese products around the world. China's economy slowed. Demand for oil dropped. Prices fell. U.S. shale production boosted supply and depressed prices further.

Some tomato growers have found a creative solution to their problem. Oil, given the costs involved, is a special case.

## RISK AND REWARD

Oil is a high-risk industry. Projects are long-term. They require massive up-front investment with no guarantee of success. The cost of hiring deep-sea drilling rigs runs into hundreds of thousands of U.S. dollars a day. It can take at least 10 years to bring production onstream, and longer to start making a profit.

Maintaining that profit can prove complicated. Volatile prices, an economic downturn, a change of government or in tax law, an accident or civil or communal conflict can all hit the bottom line.

## PROFIT AND LOSS

For reward, read profit! This determines whether a company decides to drill for oil or not. As **conventional** reserves fall, a company has to confront the extra costs of **unconventional** oil. Here's how: It looks at the world oil or gas prices and takes a view on whether they are likely to rise or fall.

It then works out whether the cost of finding and producing the oil or gas will leave it with any profit. Companies talk internally about **net profit per barrel** and use that to work out the **Internal Rate of Return (IRR)** or **Economic Rate of Return (ERR)** for a project. These are useful figures if you can get them.

## MARKET SENTIMENT

If you think economics is all about maths, think again. People make up markets. Rumours fly around. Euphoria or panic take hold. Keeping an eye on such fundamentals as supply and demand will help you understand what's really going on.



REUTERS: JOSE SAAVEDRA

## STORY IDEA

What effect do changes in oil and gas prices have on the industry in your country?

# GETTING STARTED

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## A NATIONAL DEBATE?

Hydrocarbons have the power to change lives for better or for worse. Even if their impact on your country is positive, they remain a **finite** resource. Once they're gone and the money has been spent, there's no second chance. Public debate is one way of ensuring that everyone benefits, and in a sustainable way.

To report effectively and inform that debate, you, the journalist, need three things: knowledge, skills and access.

## KNOWLEDGE, SKILLS...

Oil and gas is an industry with its own specialist knowledge and language. Vested interests and pre-conceived ideas, yours or the public's, colour any debate on the sector or policy relating to it.

To investigate and to analyse what's happening, or what could or should be happening, you need to understand what the specialists are saying and why.

To know what questions to ask them and translate their answers into something that ordinary people can understand and care about, you need to explain the context. These skills, on their own, will only get you so far.

## ...AND ACCESS

How many times have you contacted a ministry or a company to check something or seek a comment only to find yourself waiting for a call that never comes? Today, thanks to the Internet and social media, you have a wealth of sources you can question - and what they have to say may encourage other sources to talk.

A balanced, well-researched report that reflects different points of view honestly and **backs up what you say with evidence** might just give company or government officials pause for thought.

A source may not always like what you have to report but, if you can earn their respect, they might just decide that it is in their interest to talk to you.



REUTERS: NICHOLAS PHYTHIAN

# ARITHMOPHOBIA

## FEAR FACTOR

If asked to cover an economic story, do you feel inadequate... or stupid? You wouldn't be the first! Arithmophobia is a fear of numbers. Many journalists joke that they suffer from it. Many of your readers, listeners and viewers might say the same. Understanding the economy may seem complicated but it's not rocket science. It's something you can learn, and it's easier to understand than you might think. The pages that follow offer, among other things, pointers to help you spot **significant** figures, and understand why they might be important.

## CONNECTING THE DOTS

Getting your hands on the numbers is a key part of reporting on oil and gas. The figures come in all shapes and sizes. How much oil or gas is there? How much is being produced? How much revenue is being earned? How much revenue is coming to your country? How much is being spent and on what? The list is endless.

Do you have to be an economic specialist to report on this? It might help initially, but it's not a precondition. You just need to have a clear idea of what you are looking for.

Press releases from oil or gas companies are often full of figures, many of them obscure and cloaked in technical jargon. All too often these figures are relayed to the public without any explanation of why they are important, and yet it's seldom, if ever, the figure itself that's the story. It's what it means.

Figures tell stories. It's up to you, the journalist, to spot that story. If you're reporting on oil and gas, you need to know just how much oil is produced or precisely how much revenue it brings in, particularly as it might suit some people to keep the numbers vague. Clarity is vital for informed public debate.

An increase in revenue will be of interest, but the impact of that on the budget is more so. A falling oil price will be news, but its impact on the economy or on the lives of ordinary people makes a much better story.

If you have the figures, you can see if they add up. If they don't, you could have a story about cheating, corruption or mismanagement on your hands. That said, getting your hands on the numbers can be a real challenge. We'll look at that in greater detail later. In the meantime, let's learn more about the product and the way the industry works.



REUTERS: CHIP EAST

# THE VALUE CHAIN

## UPSTREAM

The value chain begins with a decision to produce. It signals the start of the negotiating game, which is at the heart of the oil and gas story and which we'll look in greater detail later. Not every country decides to produce. Costa Rica did initially and then changed its mind and declared a moratorium on exploration and production until 2021. Its government opted to promote its environment as a natural resource that it wants to conserve.

The upstream sector is often referred to as the **E&P** or **Exploration and Production sector**, so you get E&P companies, or E&P assets, or E&P costs.

It's capital intensive and, until you have discovered proven reserves of oil or gas, high risk. Even then, it can take years before a project recoups costs and starts making a profit. Managing public expectations is crucial at this stage, with many people equating oil production with instant wealth.

## DOWNSTREAM

This is where the industry adds value to oil and gas. The downstream sector covers refining and marketing. Refineries turn crudes into petroleum products such as

gasoline, diesel, kerosene, jet fuel, fuel oil, lubricating oil, plastics or solvents or extract by-products such as paraffin wax or asphalt.

**NGLs** or **Natural Gas Liquids** are, as we shall see later, an extra source of revenue for gas producers.

The sector includes marketing right down to selling fuel at the pump or delivering gas to your cooker.

## MIDSTREAM

The midstream sector often merges into the downstream sector. It covers transport of crude or gas from the **wellhead** to the refinery or to **power stations**.

Crude travels by pipeline, sea or road tanker. Natural gas travels by pipeline or in tankers in the form of **LNG** or **Liquefied Natural Gas**, which takes up 1/600th of the space of natural gas. The midstream sector also includes storage and some processing prior to refining.

Removing impurities from natural gas such as sulphur, CO<sup>2</sup> or water, which we'll look at shortly, can take place in the midstream sector. Sulphur is a by-product, although not the most valuable.



REUTERS: AZAD LASHKARI



REUTERS: JORGE SILVA



# THE PRODUCT

## TYPES OF HYDROCARBON

Hydrocarbons, as we've seen, are a mix of carbon and hydrogen atoms. Broadly speaking, they fit into three categories – crude oil or petroleum (from the Greek for “rock”), natural gas and condensate.

**Crude oil** is a liquid, carbon-heavy (80%+) hydrocarbon.

**Natural gas**, as its name implies, is a light hydrocarbon.

**Condensates** are light (API 50° to 120°), liquid and found in association with oil or gas. In high-pressure wells, they can be gas. They become liquid if the pressure drops and may be extracted as a liquid or gas. They are rich in **NGLs**. More on these shortly.

Coal, a fossil fuel formed from organic matter, is not, in itself, a hydrocarbon, although it does contain hydrocarbons.

## RESERVES

The **E&P** sector of the industry, as we've seen, deals in **Exploration and Production**. The industry classifies reserves using the letter P for proven and a number to signify how sure they are that the oil or gas is technically recoverable. **P90** denotes 90% certainty – these are known as **proven reserves**. **P50** denotes 50% certainty (known as **probable**) and **P10**, you've guessed it, 10% certainty.

Proven reserves are sometimes known in the industry as **1P**. Proven and Probable Reserves are often combined in a definition known as **2P**. Proven plus probable plus possible – all the oil you think you could get – is known as **3P**.

The industry measures crude oil reserves in **barrels** or, less frequently, in **tonnes**. It measures natural gas reserves in **cubic metres** (m<sup>3</sup>) or **tcf**, trillions of cubic feet. Be warned: Mixing up metres and feet will confuse everyone. A barrel, in case you were wondering, is 159 litres.

## THE API SCALE

The industry classifies hydrocarbons according to their **density**. It measures this in degrees, using the API scale. The higher the number of degrees, the lighter the hydrocarbon. In the case of crude oil, **light** is traditionally more valuable than **heavy**. The **American Petroleum Institute** devised the scale, hence the API acronym. It runs up to 141.5° API. Light or extra light crudes tend to be in the 30° to 60° range. Condensates run higher.

For the scientists among you, the API scale measures the specific gravity of the hydrocarbon, or the ratio of its density compared to water.



REUTERS: ILYA NAYMUSHIN

Most hydrocarbons are lighter than water and float on it or in the air. As 10° API is the equivalent of water, any hydrocarbon under 10° API will sink in water. That's fresh rather than salt water.

### PRODUCTION AND CONSUMPTION

For production and consumption, read supply and demand. Both are measured in **barrels per day** or **bpd** or **b/d** or some such acronym.

Natural gas production and consumption, like reserves, are measured in **cubic metres** (m<sup>3</sup>) or **cf** (cubic feet) and **tcf** (trillions of cubic feet). Once again, mixing them up will confuse everyone.

### BoE

**Barrel of Oil Equivalent** enables statisticians to add oil and gas together to gauge total reserves, production or consumption. It's a measure of the gas needed to produce the same energy as a barrel of oil. In case you were wondering, that's about 6,000 cubic feet, depending on the type of gas.



## LIGHT OR HEAVY?

Crude, as we have seen, is classified as light or heavy according to its density.

**Light crude** contains less carbon and flows more easily. It is cheaper to produce and transport. It also yields more high-value refined oil products such as gasoline. Broadly speaking, light crudes measure **more than 30° API**.

**Heavy crudes** are sticky, carbon-rich and need extra processing. They generally measure **less than 20° API**. They yield a greater proportion of lower priced oil products such as fuel oil. **Extra heavy crude**, such as bitumen, sinks in water.

In between light and heavy you have **medium crude**. Definitions can vary slightly from region to region. For example, Russian Urals export blend is classed as medium although its API is 32°.

## SWEET OR SOUR?

**Sour crude** contains lots of **sulphur** or hydrogen sulphide, a toxic gas smelling of rotten eggs. Sulphur and hydrogen sulphide are corrosive and damage pipelines and other equipment. If the proportion of sulphur in your country's crude is over 0.5% weight or wt to 10% wt then it will be classified as sour.

The process of removing sulphur or hydrogen sulphide is called **sweetening**. It has a cost, which means sour crude is generally worth less than sweet.

**Sweet crudes** contain less than 0.5% wt. Sweet, light crude which costs less to process, traditionally tops the value chain.

## WAXY?

Some crudes may be waxy. These crudes, such as in Uganda, do not flow easily. They are more expensive to produce and transport. The wax can solidify and slow down the passage of the crude in a pipeline, which may need to be heated.

## A LITTLE MORE SCIENCE

Each country's crude is different. Some countries have several different types of crude. Here's why: Hydrocarbons, as we've seen, are a mix of hydrogen and carbon atoms. These atoms bond in different ways, forming different-shaped molecules. These molecules form different types of hydrocarbon, which are present in varying proportions in different types of crude, or gas. The industry classifies these different types of hydrocarbon as **paraffins** (or alkanes), **naphthenes** or **aromatics**. Heavy crude, for example, contains few paraffins. The industry uses the different properties of different hydrocarbons when refining to produce gasoline, diesel, kerosene, jet fuel, fuel oil, lubricating oil, paraffin wax or asphalt. That's more than enough science... for now. Let's get back to economics.





# THE VALUE OF YOUR OIL

## BENCHMARKING?

Crude, as we have seen, comes in a wide range of varieties and grades. Its value depends on quality, quantity and the price on world markets. The price, as we have seen, depends on supply and demand, and market sentiment.

What normally happens is that the market will fix the price of your crude in relation to a **benchmark crude**. The benchmark acts as a reference price. Your crude will sell at a **premium**: e.g. plus \$1 or more per barrel, or a **discount**: e.g. minus \$1 or more. The price of the benchmark changes with market conditions (supply and demand), e.g. as oil - or industrial - production increases or declines.

News and information provider **Platts** offers benchmark price assessments for various commodity markets, including oil.

## YOUR CRUDE

**Step one:** It is analysed in a laboratory, e.g. light or heavy and sweet or sour

**Step two:** A benchmark is chosen. It is often a similar crude or a crude targeting a similar market. A notional price is agreed.

**Step three:** The price is tested on the market, agreed or revised.

Your price will be a premium or discount against the benchmark e.g. benchmark price +\$2 or -\$2.

It will rise and fall with the market.

If you're wondering what countries might have crude similar to yours, an Internet search using keywords **eia** and **crude** and **stream** will take you to a US Energy Information Administration list of different countries with their crudes and their API and sulphur-content ratings.

## BENCHMARK CRUDES

### North Sea Brent (API 38°)

- A mix of crude from North Sea fields, essentially sweet light
- A benchmark for Europe, Africa, Middle East
- It has overtaken WTI (see below) as the global benchmark

### WTI or West Texas Intermediate (API 38 to 40°)

- Also known as WTI or Texas Sweet Light (very low 0.24% sulphur content)
- The traditional global benchmark
- Brent fetches a higher price despite its 0.37% sulphur content
- Both command higher prices than the Organisation of Petroleum Exporting Countries basket of crudes

### Dubai Fateh Crude (API 31°)

- Light (*Medium*) and sour (*Sulphur content 2%, just under the 31° LIGHT threshold*)
- A benchmark for Arabian Gulf crude in the Asia market
- It sells for less than Brent

*(Prices can change with time and market conditions.)*



REUTERS.MIKE SEGAR



## DEEPER AND DEEPER

The value of your oil is one thing. First you have to get it out of the ground. If you want to find oil, as they say in the industry, you have to drill! Traditional drilling is on land and straight down. The oil or gas rise to the surface naturally. With time, the flow slows and other techniques are needed to keep the oil flowing.

With **National Oil Companies (NOCs)** controlling conventional reserves, **International Oil Companies (IOCs)** turned to techniques such as **horizontal drilling** or **hydraulic fracturing** to get at oil trapped in less conventional places.

They moved offshore, where they developed a whole new range of techniques using rigs, platforms and **FPSOs or Floating, Production, Storage and Offloading units**, drilling deeper and deeper in more and more difficult conditions.

They cut their teeth in the North Sea and the Gulf of Mexico, and honed their skills in Brazil, Nigeria and Angola.

## PRODUCTION PHASES

The type of oil company and the technical skills your country needs is likely to depend on whether you are a new producer or one with wells that are nearing the end of their lives.

Hydrocarbon production is split into three recovery phases – **primary, secondary** and **tertiary**. In the first, oil or gas rise naturally to the surface. In the second, water or gas is injected into the well to drive the oil or gas to the surface. At the end of phase two, as much as a half or even two-thirds of the oil can still be in the well. A third phase, sometimes referred to as **Enhanced Oil Recovery** or **EOR**, is designed to extract as much oil from the well as possible, but it costs more. It involves injecting heat, chemicals or gases such as nitrogen or carbon dioxide to make viscous oil more fluid and flush it out. With extraction costs as high as \$80 a barrel, development of this phase will depend of the global price of oil.

## FRACKING

Drilling is big business for oil services companies offering specialised drilling fluids ranging from mud to chemicals.

Hydraulic Fracturing or fracking is a controversial technique used to extract non-conventional tight oil or gas trapped in shale. Water, sand and chemicals are pumped underground at pressure to crack the impermeable hydrocarbon-bearing rock and liberate the oil or gas. The technique triggered an oil and gas boom in the United States, which regained the title of the world's top oil and gas producer as a result.

Critics say the technique can pollute water supplies and trigger earth tremors, and it has met resistance in Europe.



REUTERS:BRUNO DOMINGOS



REUTERS:POOL NEW

# NATURAL GAS

## MAINLY METHANE

Natural gas consists mainly of methane (70%). The remainder is made up of contaminants - hydrogen sulphide, carbon dioxide, water, nitrogen - and **NGLs** (more on these shortly). Contaminants and NGLs are removed before natural gas is sent to the customer.

## SWEET OR SOUR?

**Sour gas**, like sour crude, contains corrosive hydrogen sulphide, a toxic gas that corrodes pipelines.

Naturally **sweet gas** costs less to process and fetches a better price. The process of removing hydrogen sulphide, as with crude, is called "sweetening" and often takes place in the midstream sector.

## PRICING

Gas traditionally tracks oil prices, with supply and demand the main drivers. Proximity, pipeline capacity and a gas's energy or heating rating are other factors.

## WET OR DRY?

**Wet gas** (often gas at the wellhead) contains contaminants such as hydrogen sulphide, carbon dioxide, water and NGLs.

**Dry gas** is essentially methane, e.g. gas as delivered to the customer. It has few contaminants naturally or the contaminants and NGLs have been removed.

## NGL OR LNG?

**Natural Gas Liquids (NGLs)** are associated hydrocarbons that are refined out and sold separately. They are an additional source of revenue for gas producers. They include ethane, propane, butane, pentane (or natural "gasoline"), hexane and heptane.

**Liquefied Natural Gas (LNG)** is chilled to -162° Centigrade and reduced to 1/600th of its original volume. It's easy to store or transport.



REUTERS: DAVID MDZINARISHVILI



REUTERS

# WHAT, WHERE, WHO

## A SNAPSHOT

Let's look at different types of hydrocarbons and where they are found. We'll look at a selection of countries in different regions. You can find out about other countries by consulting the U.S. Energy Information Administration on [eia.gov](http://eia.gov)

Crude oil, as we've seen, can be heavy or light, sweet or sour or waxy. Sweet light crude, cheap to produce and process, tops the value chain. Countries as far apart as the United States, Libya and Malaysia produce this type of crude. But, as we have seen, different regions or even individual countries can have oil fields containing different types of crude. Saudi Arabia, for example, has both heavy and light crudes depending on where it is found. Where there's oil, more often than not, there's also gas.

Before we go any further, we need to define "liquid fuels", a term the U.S. Energy Information Administration or EIA, uses to compare different countries' production totals. For the EIA, "**liquid fuels**" are "crude oil, condensates, natural gas plant liquids, gas-to-liquids, and other liquids", presumably hydrocarbon liquids!

## MIDDLE EAST AND NORTH AFRICA

Figures change with time but, broadly speaking, the Middle East has over half of the world's proven oil reserves and

produces around 30% of all of what the EIA ([eia.gov](http://eia.gov)) calls liquid fuels. Saudi Arabia, Iran, Iraq, Kuwait and the United Arab Emirates have been major producers in their own right for decades. Saudi Arabia has 16% of the world proven oil reserves, with a mix of light, medium and heavy. Its heavy crude is mostly found offshore. Most Saudi crude is sour, above the 0.5% wt sulphur threshold. Iran has the world's second-largest gas reserves and fourth-largest crude reserves. Qatar is the world's biggest producer of LNG. Remember that? It's Liquefied Natural Gas, which is frozen and takes up 1/600th of the volume of gas.

Libya and Algeria are major North African producers of sweet light crude. **Algeria's Saharan blend** is 45.5° API and 0.1% wt sulphur.

## AMERICAS

The Americas produce about 20% of global liquid fuels. The United States produces different crudes but traditionally favours sweet light grades such as **West Texas Intermediate** or **WTI**, which has an API rating of 38 to 40° and a low sulphur content of 0.24% wt.

At the other end of the spectrum, Venezuela, which tops the proven oil reserve league table, and Canada, which has vast reserves of bitumen oil sands, produce crude that is heavy



REUTERS: ALI JAREKJI

or extra heavy (an API of below 20° or even 10°), and sour. Oil in the Gulf of Mexico tends to be medium sour. Brazil, a more recent player, specialises in production of pre-salt oil, which is found under a layer of salt in the rock beneath the ocean floor at depths that can run to more than 6,000 metres. The oil is medium density to light at around 30° API.

#### ELSEWHERE

**North Sea crude**, mainly produced by Norway and Britain, tends to be light and sweet or sour, but can include heavier grades.

Russia has the largest natural gas reserves in the world but it's also a major oil producer. **Russian Urals blend**, its benchmark, is medium and sour (around 32° API, 1.3% wt sulphur).

Southeast Asia is a major source of oil, supplying countries like Japan, which has little. Indonesia, Malaysia, Vietnam and Brunei are major producers. **Malaysia's benchmark Tapis Blend** has an API gravity of 42.7° and a sulphur content of just 0.04% wt. In Sub-Saharan Africa, traditional producers Nigeria, Angola, Republic of Congo and Gabon have been joined by Equatorial Guinea, South Sudan and West African countries such as Ghana. Crudes range from **Nigeria's Bonny Light** (35° API and 0.15% wt) via **Equatorial Guinea's Alba condensate** (51° API and 0.02% wt) to **Angola's heavy Kuito** (19° API and 0.66% wt).



REUTERS: LUCAS JACKSON



REUTERS: TOMAS BRAVO



# THE NEGOTIATING GAME

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We've looked at hydrocarbons as a product and as part of the value chain. How much your hydrocarbons actually earn for your country will depend on the result of the Negotiating Game.

Oil and gas attract a variety of "players". On one side, you have countries sitting on possible or proven reserves of oil or gas. On the other, you have companies that need access to those reserves to survive.

Each side has its own interests. Each has an agenda. They come together in the Negotiating Game.

There are no "Good Guys" or "Bad Guys". Success depends on how well each side plays the game.

Corrupt players on either side play a different game.



## COUNTRY VERSUS COMPANY?

The Negotiating Game pits a country against a company or a consortium of companies. Despite public talk of partnership or cooperation, each is out to protect its own interests.

The first oil boom gave birth to the “Seven Sisters”. These giant American, British or Anglo-Dutch companies carved up the industry between them, in particular in the Middle East. As **integrated companies** operating through most or all of the value chain, they could control supply and demand and, with it, the whole market. By the 1970s, certain countries had nationalised their oil industries and banded together as **OPEC** or the **Organisation of Petroleum Exporting Countries**. Arab producers opposed to U.S. support for Israel in the 1973 Yom Kippur War imposed an oil embargo on the West. Prices soared. The balance of power shifted.

## IOCs

These investor-owned **International Oil Companies (IOCs)** are successors of the “Seven Sisters”. They come in all shapes and sizes. The Supermajors are a group that comprises **ExxonMobil, BP, Royal Dutch/Shell, Chevron**, direct descendants of “Seven Sisters”, plus the French company **Total** and, depending on who’s talking, **ConocoPhillips**. They are integrated companies operating in many countries and tend to be risk averse.

You have other large multinationals with market capitalisation, assets or revenue running in billions of dollars. They include American companies **Occidental Petroleum** or **Anadarko** or Russian company **Lukoil**. Niche players and risk takers, such as **Tullow** or **Kosmos Energy**, with access to capital or specialist expertise, buy promising exploration blocks or stakes in potentially lucrative projects for resale at a profit, or to develop in their own right. Oilfield service companies such as **Schlumberger, Halliburton, Transocean, Saipem, CGG** and others offer specialist expertise.

## NOCs

**National Oil Companies or NOCs** give producing countries a stake in the industry. Initially, state-owned or majority state-owned companies had control of oil reserves but lacked technical expertise. In time, some had both.

Today, a number of NOCs are integrated multinational companies that are major players both in their own countries and further afield. In 2007, the Financial Times dubbed **Saudi Aramco, China National Petroleum Corporation**, Russia’s **Gazprom**, the **Iranian National Oil Company**, Brazil’s **Petrobras**, Venezuela’s **PDVSA** and Malaysia’s **Petronas** the “New Seven Sisters”.



## STORY IDEA

If the oil and gas sector in your country is just getting started, who are the main players in the negotiating game and how are the negotiations unfolding?

# WHO, WHAT, WHERE

## MULTINATIONAL AND INTEGRATED

Supermajors ExxonMobil, BP, Royal Dutch/Shell, Chevron, Total or ConocoPhillips, as we've seen, are both integrated and multinational, operating throughout the value chain and around the world. Their survival depends on access to new sources of supply. The same could be said of many shareholder-owned IOCs.

That's not a problem for some of the "New Seven Sisters", in particular **Saudi Aramco, Russia's Gazprom, the Iranian National Oil Company, Brazil's Petrobras and Venezuela's PDVSA**. But the "New Seven Sisters", which also include **China National Petroleum Corporation** and Malaysia's **Petronas**, are, just like the IOCs, both integrated and actively involved in projects outside their national borders. Some, particularly China's NOCs, are keen to supplement production at home.

Oil and gas, as we've seen, is a high-risk game. Unless exploratory tests suggest they are on to a sure-fire winner, most companies prefer to find partners with whom to share that risk.

IOCs and NOCs band together in consortia to develop new reserves all around the world, offering different advantages to the producing or would-be producing country. These can

range from technology and technical expertise to specialist equipment, project management and cash, or more likely loans, for investment. In the case of Chinese companies, this can extend to broader development cooperation such as building roads or other infrastructure.

The question for you is what companies are likely to turn up on your doorstep and what are they likely to bring to the party.

One place to find out is the company website, which can offer a wealth of fascinating technical information, although you may have to dig deeper to find out about the company's track record.

## SPECIALIST SKILLS

Supermajors offer experience and economies of scale, but there are a range of smaller IOCs offering specialist skills.

These include oilfield services companies such **Schlumberger**, which provides technology and what it calls "integrated project management and information solutions" across the industry. Its **Oilfield Glossary** offers useful explanations of industry jargon.

US company **Halliburton**, which developed special cement



REUTERS: ALI JAREKJI



and casing to strengthen well boreholes, specialises in deepwater and unconventional production, and mature fields. Swiss-based **Transocean** provides and manages offshore rigs and FPSOs. Remember those? Floating, Production, Storage and Offloading units?

French company **Technip** offers project management, engineering and construction. **CGG (Compagnie Générale de Géophysique)** specialises in the seismic imaging that identifies rock deep underground that is likely to contain hydrocarbons. This includes 3D imaging and 4D processing.

Brazil's **Petrobras** has experience of drilling in deep water, particularly for oil or gas trapped under the ocean bed and a

layer of salt that formed in the rock there.

**The China National Offshore Oil Company** or **CNOOC** has experience of building pipelines and refineries and petrochemical plants. Malaysia's Petronas, which operates mature wells inside its own borders, has an interest in **Enhanced Oil Recovery**.

NOCs are partners in projects all over the globe including developed markets. China has been investing in foreign oil and gas projects since 1993 and produces far more of its oil abroad than at home. Initially it invested in Thailand, Canada and Peru. It now has stakes in projects round the world, including in the United States.

## STORY IDEAS

- Which companies are active in your country's oil and gas sector?
- What is their record?
- What can they offer and what will this mean for the country?



## THE SPECTATORS

As with any game, you have participants and spectators. The public at large will be interested, particularly given the hype and raised expectations that usually surround the discovery of oil or gas. The business community will be watching. Communities that are directly affected by the industry should be watching. Civil Society or Non-Governmental Organisations (CSOs or NGOs) will have a view on what could or should be happening.

Opposition political parties will also have a view and will be keen to express it, but what happens in your country will be of interest to far more than a national audience. It's not unlike the interest English Premier League soccer clubs attract around the globe, although spectators outside your country may have more impact on the Negotiating Game than overseas Manchester United or Liverpool fans can exert!

## FURTHER AFIELD

International NGOs, such as the **Natural Resource Governance Institute (NRGI)** or **Global Witness**, will be watching, but so too will consuming nations and governments who have signed up to initiatives to increase transparency in the sector.

Other oil producing nations or would-be oil producing nations may look to your experience of working with a specific company before deciding with whom to do business. Other international oil companies may also be watching for snippets that could help them differentiate themselves from rivals in the highly competitive business of pitching for new contracts.

Increasingly, regulators will be watching what happens as international stock exchanges require companies listed there to disclose payments to producing nations.

## THOSE MOST AFFECTED?

All this may well have an impact on the Negotiating Game in your country, but what about those whose lives are most directly affected? Even if they are interested in what might be happening, can they do any more than just stand by, powerless to influence anything, and watch? Maybe.

Companies, as we shall see later, see their reputation as a valuable asset to be protected at all costs. Negative publicity can be bad for business. Public perceptions can give a company pause for thought. Even in countries where elections may be flawed, public perceptions, particularly if influential partners or supporters are listening, may encourage politicians to rethink policy or clean up their act.



## STORY IDEAS

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- What is the public perception of oil and gas production in your country and the associated risks and rewards?
- Has this affected government policy?
- How do perceptions differ between urban and rural areas?
- What about the areas where oil or gas is, or will be, produced?

## WRITTEN OR UNWRITTEN?

You've already met the Game's **unwritten** rules – the laws of supply and demand, risk and reward and profit and loss. One side, the country, gets to write the **written** rules, or most of them. Your constitution, laws and regulations are the rules that your country writes to protect the national interest in the negotiating game. That, at least, is the theory.

Legislation is generally debated in public, approved by the representatives of the people, in the name of the people, and then published for all to see.

That, as we shall see later, doesn't always mean the country has the upper hand!

## THE LETTER OF THE LAW

A constitution defines the rights and responsibilities of the people, and generally makes clear who owns natural resources.

Statutes or decrees (legislation) spell out how those rights and responsibilities will be exercised by the different actors in specific areas, e.g. your country's hydrocarbons sector. The regulatory framework sets those laws and their administration in the context of everyday life.

In theory, the law of the land is the final word, but the written word is open to interpretation! Those who drafted and approved the laws may have meant one thing. The unwritten law of unintended consequences may dictate that a poorly drafted law means something else.

## WHICH LAW?

The oil and gas industry is subject to many different laws, e.g. a hydrocarbons law, an environmental law, a labour law or a tax law. If two national laws confer different rights or responsibilities, the written word is once again subject to interpretation, e.g. a labour law may say one thing, a hydrocarbon law another. In the event of a dispute, is it always national law that has the final word? Enter the contract.



REUTERS: KIERAN DOHERTY



## A NEGOTIATED TRADE-OFF

The contract is the written document that sets out the rights and responsibilities of the country and an oil company as agreed during the Negotiating Game.

It is part of a complicated web of rules that govern the oil and gas industry in your country. The **constitution** is at the centre of the web, but a contract can modify the way certain laws apply. It can state which laws apply, when and how. A **choice of law** clause in a contract may state that any dispute will be judged in and by the laws of another country, e.g. Britain or France. It may state certain laws do not apply to a specific project, e.g. it could charge a company a different or a lower rate of tax than that ordered by a finance law.

Azerbaijan's state-investor Host Government Agreement, for example, is a contract that explicitly prevails over conflicting provisions of Azerbaijani tax law.

## ANTICIPATION AND INTERPRETATION

A country can move the goalposts by changing laws governing the industry, e.g. to impose higher taxes.

A **stabilisation clause** in a contract can protect a company

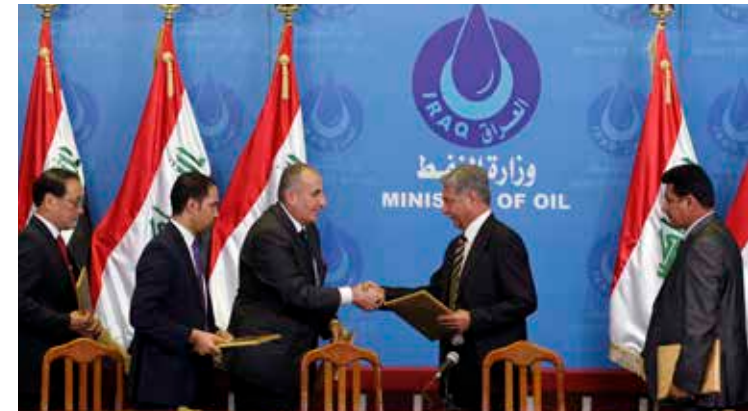
from any new laws that are prejudicial to its interests, e.g. a law changing tax rates or backdating the extent to which a company is financially liable for the impact of an environmental accident.

The art of contract writing is anticipation, but, as with legislation, the written word in a contract, as we shall see later, can be open to interpretation.

## CONTRACT? WHICH CONTRACT?

Large oil or gas projects spawn scores of contracts. These can be state-investor agreements linking governments, NOCs and IOCs. They can also link contractors, sub-contractors, banks, service companies or suppliers.

A **"primary"** contract is superior to all other contracts. Lawyers look for and refer to it in the event of a dispute. The state-investor or **Host Government Agreement (HGA)** is a primary contract. It links the state and a company or a consortium of companies. It goes by different names. It can be a concession, licence, a production sharing or a service agreement or a mix of these.



REUTERS: MOHAMMED AMEEN



REUTERS: AHMED SAAD

## THE LICENCE

This is traditionally the first signed agreement. It gives a company access to oil and gas. A country grants blocks or acreage for an agreed period.

Licensing rounds help nations determine investor quality and likely revenue. A country auctions licences to operate in blocks that might have oil or gas in them. It puts them up for sale. Companies compete for the right to explore the blocks. The companies submit bids or tenders. They offer money and competing work programmes. They sometimes have to bid blind! Countries can open bids to all-comers or restrict them to pre-selected companies.

## THE CONCESSION

This is the oldest form of oil contract. It gives a company the right to explore and develop a specific geographic area and sell the oil or gas it finds there. In return, the company pays the country rental, royalties and other fees. The model began in the United States and is still in use there.

## THE JOINT VENTURE

In time, producing countries wanted a greater say in the exploitation of their oil or gas. Partners in a joint venture share investment/costs and risks/rewards. Nigeria favoured this model. The partners manage projects jointly, but decision-making with this type of contract can be slow or unwieldy.

The **Production Sharing Agreement (PSA)**, which emerged in Indonesia in the 1960s, offers a more flexible alternative approach.

### PSA or PSC?

With a Production Sharing Agreement (PSA) or Contract (PSC), the country owns the oil. The company takes the exploration risk and shares the reward with the country. Ghana is one of many countries using this model.

The company provides the money to explore and takes the risk of finding nothing. If they strike oil, they have the right to recover their costs – this is called “**cost oil**”. The rest – “**profit oil**” - is shared with the country. The company share is negotiated. The country, if it is in a strong bargaining position, takes the lion’s share. Some PSAs or PSCs allow

the country to increase its revenue by taking a financial or “**equity**” stake in a project. This can be offered free of charge by the company or paid for by the country.

## THE SERVICE CONTRACT

As contracts evolved, some countries wanted to take even greater control of the exploitation of their oil or gas reserves. The service contract is a **vendor-client** relationship. This works for countries like Saudi Arabia or Venezuela, which have huge reserves of commercially viable oil.

As wells age and marginal or unconventional reserves grow more important with a decline in commercially profitable proven reserves, the service contract has evolved.

Enter the **EOR (Enhanced Oil Recovery) PSC**, which was developed by Malaysia for marginal fields. This performance-based agreement, which also works for fields approaching the end of their life, has become known as a **Risk Service Contract**.

## DRY AND DAUNTING

Primary contracts look similar. The amount of detail depends on what's established by law. Here's an example of the format:

- Preamble or Recitals
- Definitions
- Grant of legal title
- Oversight
- Rights, Duties, and Obligations
- Confidentiality
- Termination
- Dispute Resolution
- Assignment

## WHAT'S NOT COVERED

This is likely to include:

- commercial assumptions
- the quality or quantity of the oil or gas reserves
- operational data, cost information or manufacturing processes
- pending litigation, identities of shareholders
- revenue and cash flow data
- capital and operating spending or employee information.

- These are worth thinking about and may be worth investigating, but you probably won't find information about them in a contract.

The same is likely to be true for the potential costs of stopping or putting right environmental damage, unless it's in the form of an exclusion clause.

## BEWARE OF THE SMALL PRINT

Let's drill down and look at what you might find in each section.

**Preamble:** The parties, the start date and the contract's purpose

**Definitions:** Key terms used in the contract.

**Grant of legal title:** The country acknowledges the legal interest and rights of the company or consortium under the contract.

**Oversight:** Decision-making (the make-up, powers and operation of any decision-making body) and, if the state has an equity stake in the project, the funding, cost-sharing and resource allocation

**Rights, Duties, and Obligations:** Operational provisions (work and spending commitments, health and safety, hiring, training, accounting standards, environmental standards and responsibilities, obligations to local communities); fiscal

provisions (tax, royalty and other payments); fiscal ground rules (foreign exchange handling, capital repatriation, inter-company transactions, revenue distribution, definition of costs etc.)

**Stabilisation clause:** A clause exempting the company from future changes in the law that are prejudicial to its interests, e.g. tax hikes.

**Confidentiality:** Contract details that stay confidential and for how long

**Force majeure:** Conditions governing when one party is unable to deliver for reasons beyond its control, e.g. war, natural disaster etc.

**Termination:** When the contract ends, whether and how it can be ended early or renewed. Termination clauses are important because a company might try to stop production before all the oil or gas is extracted if profit margins fall. The country might want to extract more slowly than the company and spread revenue over a longer period.

**Dispute Resolution:** Arbitration provisions, often including a "choice of law" clause, which allow disputes to be heard in another country such as Britain.

**Assignment:** Transfer of all or part of a project to a third party. In the jargon of the industry, transfer of interest can be a farm-out or a farm-in or a farm-down.



## TYPES OF EXCLUSION

These clauses exclude or limit liability for:

- a certain type of breach of contract
- a certain type of loss

They limit total liability to a stated amount or place a time, procedural or other limit on a party's ability to claim.

One question to ask is: Who will pick up the bill if it's not the company? How will they pay?

Another question might be: What incentive does a company have to take proper care if it doesn't need to worry about the longer-term consequences of its operations?

## LIMITATION CLAUSES

These are time limits on a company's responsibility or liability, e.g. for the longer-term environmental impact of its operations or for accidents.

## LIABILITY CAPS

These clauses limit or exclude recoverable damages in relation to a company's operations. **Liquidated Damages Clauses** or **LDCs** limit total damages to a pre-agreed amount.



REUTERS

Has your country agreed to this kind of cap or does it plan to do so? Should your country agree to this sort of thing?

If you're investigating this, it's important to reflect all sides of the argument.



REUTERS:LEE CELANO

## STORY IDEAS

- What contracts can you find for your country? Are they even available? (See later for a section on information sources)
- Do your country's contracts contain exclusions, or feature caps on liability? Or does your country plan to include these? What are its reasons?

## A FISCAL REGIME

We've looked at the laws of supply and demand, risk and reward and profit and loss. It's time to look more closely at the money your country earns or could earn from its oil or gas. Ask anyone what a fiscal regime is and they will most likely tell you it's the tax system. In fact, it's much more than that. It's government revenue and spending in all their forms – taxation, borrowing, grants, spending, investment etc. It's the written rules governing how that income is sourced – tax laws, budgetary regulations, contracts etc. It's also the written rules governing how it's managed and spent – the account it's kept in, how it's distributed, how it's invested etc. Understanding it involves some maths and numbers, but it's not rocket science.

## RENT OR RENTAL?

Economists talk about **natural resource rents**. Oil rent is one of these and a concept that you will need to grasp to investigate whether your country earns its fair share of the revenue from its oil or gas.

Essentially, oil rent is EXTRAordinary profit. A normal profit margin offers a reasonable return on investment once costs have been deducted, say 10% or 15%. A sharp rise in oil prices or special factors such as cheaper production costs can, how-

ever, result in a bigger profit margin. Traditionally, oil companies kept quiet about oil rent and kept it all. Today, producing countries take steps to ensure oil rent comes to them.

**Rental**, as you might expect, is rent paid for leasing something such as an exploration or production area.

## OIL OR GAS REFERENCE PRICE

This is the **book** or **budget value** of your oil or gas (or minerals) for the fiscal year ahead.

It is a projection of where your government thinks the price will be. It governs **budget projections** - how much the government thinks it will have to spend. It governs tax, royalty or other revenue calculations. In short, it governs "government take" - your country's share of the value of your oil or gas.

It is published annually in the budget statement and sometimes separately. If the government gets it wrong and prices plummet, your country could be in trouble.



REUTERS: SHANNON STAPLETON

## STORY IDEA

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What is your government's reference price and is it appropriate?

## A NATIONAL RESOURCE?

A country earns revenue from its oil or gas in a variety of ways. In most countries, the oil or gas is a national resource and all the revenue goes directly to the state. In the United States, however, private citizens can earn a share of the revenue if the oil or gas is under land they own.

Here are some ways countries earn revenue from hydrocarbons:

**Taxes:** Oil companies have a duty to pay taxes in countries in which they operate. These could be corporate tax, local taxes, income tax, import or export tax or Value Added Tax on goods or services. Some countries waive certain taxes to coax a company to look for oil or gas. Norway offered an investment allowance and exploration tax credits. Companies, as we shall see later, use accounting tricks to cut their tax liability.

**Royalties:** A royalty is not a tax. It's a no-strings payment in cash or in kind (in this case, that's oil or gas) for the right to use something someone else owns. It's compensation for loss of resources, without regard to profitability. Historically it was a payment to a feudal king for right to use land or a title. It's also used for intellectual property – copyright or patent on music, ideas, films etc.

**Government Equity:** Government takes a direct stake in a project. The country shares risks, costs and profits. Here's how: **Free Equity** (government pays nothing); **carried interest** (government buys with money borrowed from the investor); **paid or additional interest** (government pays nothing but its stake grows during life of contract); **full participation** (government pays cash for an extra stake).

**Rental and Fees:** Rental, lease or licence fees for an exploration or production area; application or processing fees; fees for renewing or withdrawing an application; fees for an application to assign your stake or part of it to someone else; fees for an application to terminate your contract. The list goes on.

**Bonuses:** A signature bonus is paid upfront in cash. It can run into millions of dollars. It depends on acreage or the size of exploration blocks. A country may also demand a discovery bonus and bonuses at the start of production or when thresholds are reached. The list goes on.

**Windfall and Withholding Taxes:** Do you remember resource rent, those EXTRAordinary profits companies once kept for themselves? A windfall tax captures that. What constitutes a reasonable return on investment is part of the negotiating game. Companies pay a withholding tax on behalf of contractors, suppliers or investors likely to fall off the tax radar. The company then reclaims the money from them.



REUTERS: NIKOLA SOLIC

## STORY IDEAS

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- How does your government earn revenue from its oil or gas? Or how does it plan to? Is it getting a good deal?
- What does your government plan to spend its oil or gas money on?
- Is your national company or government entering into a partnership with any foreign oil companies? Is the risk worth the potential reward?



## A BLESSING OR CURSE?

In some countries, hydrocarbons have been a blessing, feeding economic growth or funding development or savings for future generations. In others, they have been a curse, driving traditional industries out of business, enabling autocratic rulers to hang on to power or fuelling corruption, communal unrest or civil war. Here are some of the things that could go wrong:

### Dutch disease

**Dutch disease** kills traditional non-oil industries by making their products, particularly exports, less competitive. For example, Nigeria, before oil, fed itself and exported food. No longer! Here's how this can happen: Demand for your currency soars as everyone wants a piece of the action. Its value rises. Imports become cheaper. Exports become more expensive. Traditional industries can't sell at home or abroad. They lose market share.

Dutch disease takes hold. Traditional or non-oil industries lay off workers. Oil and gas is not labour intensive and can't employ them. Unemployment rises. You are hostage to a resource, that won't last forever. While it lasts, you are hostage to price volatility.

### Price volatility

Volatile prices are a fact-of-life in the oil industry. "Seven Sisters" controlled the market and prices for a time. OPEC tried to do the same, but competition, supply and demand and political rivalry disrupt the best laid plans. A sharp price fall can have a catastrophic effect on national budgets. It might even trigger premature decommissioning of expensive fields.

### The debt trap

If you have oil or gas, you're a safe bet for any lender. Borrowing, in itself, is not a bad thing, provided you invest the money in projects that will make or save you money. Borrowing to fund day-to-day spending, conspicuous consumption or prestige projects is not so smart.

### "Rentier" economy and "elite capture"

A nation that sits back and lives off the proceeds of selling its oil, unlike a landlord living off rent, risks finding itself with nothing the day its oil runs out. At the same time, citizens who do not have to pay taxes tend to take little interest the way the nation is run. As a result, a national resource, and any decision on how to spend the proceeds, is likely to remain in the hands of a ruling elite.



REUTERS: ANA MARTINEZ

### Corruption

Public or communal perceptions of cheating or injustice can stoke national, regional or community tensions. “Good governance” is often touted as a solution, but political, social and economic dynamics vary from country to country. They, rather than a one-shoe-fits-all approach, are likely to dictate whether governance is effective. What works for Norway or Indonesia, for example, may not work in Angola or Equatorial Guinea.

### Short-term thinking

If you spend oil and gas revenue to fund routine government spending, civil service salaries, budget holes or shortfalls or to mask bad management, you’ll end up with nothing to show for it.

### White elephants and pork-barrel politics

Politicians are not above using oil money to fund prestige or community projects to persuade voters to re-elect them.



REUTERS: PAULO WHITAKER



REUTERS: ANA MARTINEZ

### STORY IDEAS

- Have any of these things gone wrong in your country? Could and should they have been foreseen or prevented? Whose job was this?
- Is there a risk of any of these things happening? Opposition politicians may say so, but remember: You’ll need evidence to back up a story!

## A FINITE RESOURCE

Oil or gas, as we've seen, do not last forever. They are a windfall, a bit like an inheritance or a lottery win. The extent to which your country benefits from its oil or gas will depend on how it manages and spends the money they bring. If you spend your inheritance on fast cars, champagne and parties, you'll have little to show for it once it has run out.

It's no better if you use it to fund day-to-day spending. In a country context, this could be plugging budget deficits or massive pay rises for government employees doing jobs that don't need doing. Revenue management is more than how you spend the money. It's also the checks and balances that ensure that it doesn't leak away.

Norway, often held up as an example, splits responsibility for the sector between its national oil company, **Statoil**, a petroleum authority and the government. Ghana and Chile have set up independent bodies to advise on investment and spending options. Other countries have made contracts or spending subject to parliamentary approval. We'll look at spending and investment options later. In the meantime, where do you put your money once it starts flowing?

The basic choice is between using a **general** or **consolidated fund** for all the money a government earns, a bit like a current account in a bank, or setting up a **separate oil** or **gas fund**. If you put your oil money in the consolidated fund, the danger is that it will be difficult to track, and you won't know what it's being spent on.

If you put it into a separate fund, there will be greater transparency, but there is a risk of fuelling rivalry between those who manage that fund and those who manage the main budget.

A growing number of countries are opting for separate funds. These can take various forms. The **Natural Resource Governance Institute** has an interactive map on its [resourcegovernance.org](http://resourcegovernance.org) website.



REUTERS: CHRISTIAN HARTMANN

## STORY IDEAS

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- How is oil and gas revenue managed in your country, and is it the right option in the current economic climate?
- Is there effective oversight of your country's oil revenues? How easily could it be misspent or stolen?
- Will your country have anything to show for its oil wealth when the oil runs out?

## SPENDING AND INVESTMENT OPTIONS

The **Natural Resource Governance Institute** is a non-profit policy institute set up to promote effective, transparent and accountable management of oil, gas and mining. It put the 2014 tally of **natural resource funds** at 55 in 40 countries, with over a dozen other countries considering setting one up. Natural resource funds fed from oil or gas revenue had a total net worth of an estimated \$4 trillion in 2014.

The largest fund is Norway's. The United Arab Emirates (Abu Dhabi), Saudi Arabia, Kuwait and Qatar plough oil or gas revenue into similar investment funds. Britain, a North Sea oil and gas producer like Norway, does not.

Natural resource funds serve various purposes, depending on the needs of a given country. Let's take a look at some of these.

## DEVELOPMENT OR INVESTMENT FUNDS

Investment in a sustainable post-oil future can take many forms. Spending on health, education and infrastructure are all options for setting the country on a path to development. Investment in education in South Korea, while not funded by oil or gas, turned the country into a high-tech powerhouse.

Other options could include investments in new projects that offer the country a living once its oil or gas are exhausted or help established industries, such as agriculture or tourism, develop.

The United Arab Emirates, in particular Dubai, has invested in becoming a financial, freight, trade and air transport hub, and in tourism. Dubai has its Investment Corporation, Abu Dhabi its Mubadala Development Company.

Trinidad and Tobago turned itself into a regional hub for gas. Malaysia, looking beyond oil extraction, wants to become an energy hub. Iran, meanwhile, has its National Development Fund.

## HERITAGE FUNDS

In general terms, these are savings funds for present and future generations. They receive a share of the nation's oil, gas or mineral revenue. They invest it abroad.

Norway has what it calls its **Government Pension Fund – Global**. It's the world's largest sovereign wealth fund in terms of capital.



REUTERS: DAVID MDZINARISHVILI



The Kuwait Investment Authority, founded in 1953, is the world's first and oldest national sovereign wealth fund. It manages, among others, the Kuwait Future Generations Fund. Elsewhere, Russia has a National Welfare Fund and Trinidad and Tobago has a Heritage and Stabilisation Fund.

#### A STABILISATION FUND

This provides budget support. Interest rates rise sharply if a country needing to borrow faces a crisis. A sudden unexpected drop in production or oil prices can leave government with less revenue than expected. A stabilisation fund enables it to make up resulting budget shortfalls. Algeria has a Revenue Regulation Fund, Mexico its Oil Revenues Stabilisation Fund and Turkmenistan its Stabilisation Fund.

#### A STERILISATION FUND

This protects your economy from **Dutch disease**, which, as we've seen, can follow a rush for your currency and a sharp rise in its value. If you keep your oil dollars offshore in a sterilisation fund, you limit demand for your currency. Other sovereign wealth funds can serve as sterilisation funds, e.g. heritage or investment funds such as those in Saudi Arabia or the United Arab Emirates. By mopping up excess foreign currency, they stop the economy from overheating and leave non-oil industries space to export and grow.

Another treatment for Dutch disease is to invest in traditional industries and help them adapt.



REUTERS: THAIER AL-SUDANI

## LEAKAGE

Oil and gas revenue can leak out of the fiscal system in various ways. Some are illegal. Some may look like sharp practice or bad faith, but they are legal loopholes so long as a country's legal system does not expressly forbid them.

Major multinational companies have always used such loopholes in varying degrees, but it has become a major public talking point and a reputational risk for companies in certain countries. Let's look more closely at different kinds of leakage.

## CORRUPTION AND TAX EVASION

These are the most difficult to track. Both are illegal.

**Tax evasion is fraud.** It involves non-declaration of earnings or profits or overstating costs and other allowable deductions.

**Corruption** can take the form of bribes or secret payments by companies to officials for using their position or their influence to secure contracts. This is sometimes called **traffic of influence**. Other forms of graft include **embezzlement** of public funds or **theft of public assets**.

Those involved often cover their tracks by working through **shell companies** that are registered in tax havens or are subsidiaries of companies registered in **tax havens**. Shell companies are sometimes called "**Russian doll**" companies after the doll with other dolls inside.

## TAX AVOIDANCE

Unlike tax evasion, this is not illegal. It's accounting or book-keeping tricks that help companies to stay within the rules set by the state while paying a minimum of tax. It's sometimes called **tax optimisation** or **tax-efficient accounting**.

In Europe, particularly in Britain, coffee chain Starbucks and Tech giant Google or e-commerce giant Amazon have come under the spotlight for tax avoidance.

As governments and parliaments are masters of their own legal framework, they can always change the law but often these practices go unnoticed.

Let's look at some of the techniques companies use.



## STORY IDEAS

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- Have any of the different players in your country been criticised, there or abroad, over their tax affairs?
- If yes, where, by whom, for what? Do any of them have connections with tax havens?

## WAKE UP AND SMELL THE COFFEE

**Transfer pricing** is an accounting trick that makes headlines. Multinational companies have subsidiaries around the world. Often, these are registered in countries where they have to pay little or no corporation or company tax.

A multinational in your country may trade with one or more of these subsidiaries. If they buy from them, they might inflate costs. If they sell to them, they might sell at knock-down prices.

This reduces profits in your country and the company registered there pays less tax to your government. It's legal, if your country allows it. U.S. coffee company Starbucks used transfer pricing to save on taxes in Britain. They are not alone.

## THIN CAPITALISATION

In some countries, interest payments on company loans are a **deductible** cost. This encourages some companies to borrow more than they need to fund a project. The company enjoys a double benefit:

- Interest on the loan pushes up deductible costs, the company's profit falls and it pays less tax.

- The company keeps capital for investing in additional projects.

This is also called maintaining a **"high debt to equity ratio"**. It's legal unless a country specifically forbids it.

## LOSS CARRYFORWARD

This is another tax-saving accounting technique. It takes at least two forms:

- A company uses the costs of a loss-making operation to reduce tax liability on a separate profitable operation.
- A company shifts one year's net losses to future years' profits to reduce its tax liability.

Some countries' fiscal systems allow this. Some even offer this as an incentive to would-be investors.

## RING FENCING

This is one solution to loss carryforward. A country can choose to close this loophole by taxing each individual contract or project separately. Does your country do this? Should it? Remember the negotiating game! Is your country in a position of strength?



## STORY IDEA

- Has your country taken any steps to counter tax avoidance? Or has it made it easier for oil companies to avoid tax? If yes, why and how?

## G20

The G20 group of major economies approved a 2015-2016 Action Plan targeting bribery and high-risk sectors. It focuses on what it calls **beneficial ownership**, to flush out the owners of shell companies, and on public sector transparency. It promises international cooperation and information sharing. Extractive industries are singled out as high-risk.

### PUBLISH WHAT YOU PAY!

Some countries have taken steps to increase transparency in the extractives sector.

## U.S. Dodd-Frank Act 2010

This stipulates that all oil, gas and mining companies listed on U.S. stock exchanges must publish payments exceeding \$100,000 that they make to all countries and for every project, without exception. The American Petroleum Institute challenged the provision. The Securities and Exchange Commission agreed to redraft the rules.

## Canada

Canada promised federal legislation on mandatory reporting standards in 2015.

## European Union

European Accounting and Transparency Directives require all EU-listed or large privately owned oil, gas, mining and logging companies to publish all payments over €100,000 to every country where they operate and for each project. They gave EU member states until July 2015 to implement the regulations.



REUTERS: KEVIN LAMARQUE

### STORY IDEA

- Are oil and gas companies publishing what they pay to your government to comply with rules elsewhere? Does your country publish payments it receives? Do they match?



## TRANSPARENCY

**The Extractive Industries Transparency Initiative (EITI)**, like many international initiatives, is hardly the stuff of front-page headlines. It could, however, be an important resource for you as a journalist.

Launched in London in 2003, EITI brings together governments, civil society, investors and some of the world's top oil, gas or mining companies to make the management of revenue from natural resources more open and accountable.

Governments sign up to EITI and disclose how much they get from extractive companies operating in their country. Companies that sign up disclose how much they pay. The aim is to promote informed public debate on what happens to the money!

## THE NATURAL RESOURCE CURSE

EITI grew out of **Publish What You Pay** or **PWYP**, a global network of civil society organisations campaigning for transparency in the extractives sector. This, in turn, grew out of initiatives launched by economists such as Jeffrey Sachs or Joseph Stiglitz, a Nobel laureate, to try to understand how oil, gas or minerals could become a curse for producing countries. PWYP encouraged companies to publish payments made

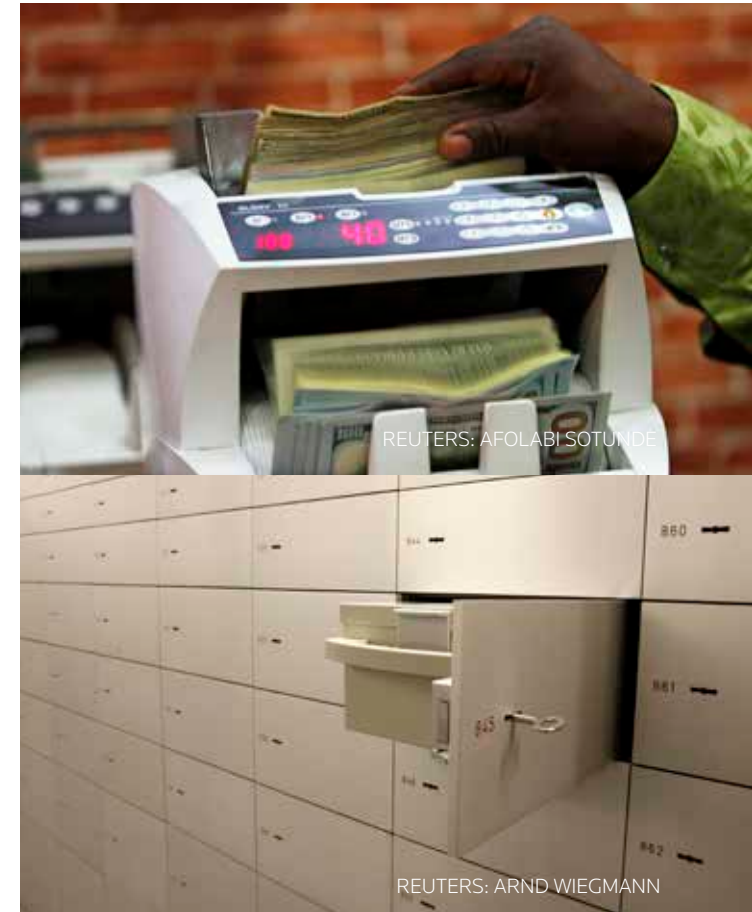
to producing countries in the interests of transparency. Supermajor BP responded by publishing details of a \$111 million signature bonus it had paid to Angola. The problem was that the Angolan government was not best pleased. Going it alone put companies in a difficult position vis-à-vis some producing countries.

## A USEFUL RESOURCE

EITI makes it easier for companies to publish what they pay. It takes the spotlight off individual companies and offers strength in numbers. For the journalist, it's an interesting resource.

Big companies, and oil or gas companies are among some of the biggest in the world, see their reputation as a vital asset and do all they can to protect it. They, or their lawyers, pounce on anything libellous. At the same time, they highlight things that make them look good and try to avoid anything that makes them look bad.

Supporting EITI could be good for business. What would the public in your country think? Are the companies hunting for oil or gas or producing it in your country EITI-supporting companies? If not, why not, and are they the kind of company your country should be doing business with?



REUTERS: AFOLABI SOTUNDE

REUTERS: ARND WIEGMANN

## THE EITI STANDARD

EITI publishes reports on the extent to which countries that sign up to the EITI Standard meet its disclosure requirements. An independent administrator reconciles company and country disclosures.

EITI is a non-profit association under Norwegian law. It is registered as “The Association for the Extractive Industries Transparency Initiative” or “EITI Association”.

To learn more about EITI or to start using it as a source or a starting point for an investigation, check out [eiti.org](http://eiti.org)

To learn more about Publish What You Pay and its campaigns, check out [publishwhatyoupay.org](http://publishwhatyoupay.org)



## STORY IDEAS

- Has your country signed up to EITI or has it applied to join? Are civil society organisations pushing for it to sign up?
- Do the oil companies operating in your country support EITI? What is their record on transparency and corruption?

## WHAT'S IN IT FOR US?

Local content is part of the **money trail**. It offers different ways in which your country's citizens can benefit from the oil and gas industry.

The industry can offer people jobs and skills training. It can offer local companies a market for their products and services.

Foreign companies can offer citizens and their companies a stake in the business. They can offer your country's National Oil Company skills and technology transfer. Policy makers should perhaps think carefully about this and factor it into the negotiations.

## JOBS FOR CITIZENS?

Oil companies can employ your country's citizens directly on site as skilled, semi-skilled or unskilled workers or in offices in white-collar, administrative jobs.

Onsite jobs range from engineers, geologists, drillers or surveyors to welders, pipelayers and roustabouts or unskilled labourers.

The oil and gas industry, however, is not labour intensive.

Where highly skilled jobs are concerned, companies often bring in expatriates, saying that local qualifications are not on a par with industry standards. This, and, where necessary, the provision of training, should be part of the negotiations.

The industry can offer national companies an opportunity to tender for contracts to supply products such as food or offer services such as transport. Once again, industry standards may become an issue. National companies might also be well-placed to offer expertise in local legal, labour or accounting practices.

## PARTNERSHIPS

National companies can work as agents or contractors for foreign oil or gas companies. They provide a service and are paid a fee.

Things become more interesting for them if they become partners. Partners have a real stake. They may share the risks of the venture, but they also share the rewards. Should this, or could this, happen in your country?

We have seen that certain types of contract offer the producing country an equity stake in a project. This is mostly offered through the national oil company.

A country's nationals can, however, buy a stake in an operating



company if it registers locally and offers shares on the local stock exchange.

### SKILLS, KNOWLEDGE AND TECHNOLOGY

Skills training and knowledge transfer are a vital if a producing country is to draw maximum benefit from its resource. Some companies train people on site. Others sponsor their training at foreign universities.

If national qualifications do not meet the standards set by foreign companies, then changing that should be priority in local content discussions - and an interesting line for a story. Training, whether through universities or colleges of further education, could become a new and potentially profitable focus for education authorities in a producing country.

Technology transfer has played an important role in helping some more long-standing national producers play a greater role in the exploitation of their oil or gas, and in the industry in general.



REUTERS: ATEF HASSAN



REUTERS: ATEF HASSAN

### STORY IDEAS

- How has the oil and gas industry benefited your country through local content? Or how could it benefit your country in the future? This question is so broad; it may help to break it down!
- Has the industry provided jobs or training or technology transfer? Will it?
- How is the oil and gas industry supporting other industries, such as agriculture or transport?
- Have any companies from your country won contracts to provide services for the oil and gas industry? If yes, what?



How you spend the money is one thing.  
How you share it out can be just as important.

## WHO

Oil and gas are a national resource. As such, all citizens have a stake in how the money is spent but the social and environmental impact of the industry will be greater on some communities than others.

Should there be extra for communities in producing areas? Provincial, regional, district, municipal or communal authorities will certainly be lobbying for a greater share of revenue from what they might perceive to be their oil or gas.

The price of ignoring their demands can be high. Regional or community tensions can erupt into conflict and civil war.

## WHAT

If the country opts to allocate part of the revenue to communities in producing areas, several questions need to be addressed.

How much should communities in producing areas receive? What constitutes a fair share of the revenue? Should it be a fixed percentage or discretionary?

From which revenue stream should the money be paid? Royalty, corporate tax, rent, property tax etc. If you're writing a story on this, examples of what has worked – or hasn't – in other countries can offer useful insights. The websites of organisations such as the **Natural Resource Governance Institute**, formerly Revenue Watch, or **Global Witness** would be a good starting point.

## PITFALLS

Price volatility is one. Should price falls lead to revenue cuts for local communities?

Another pitfall is the capacity of the local authority to manage the revenue fairly or effectively. Is there a risk of wasteful spending, of pork-barrel politics, of poor investment choices?

The finite nature of oil or gas is another pitfall. It can tie the local economy to one source of revenue. Could you have a single resource boom, followed by a post-oil bust?

Another issue that needs to be addressed is who monitors how the money is spent.

Pitfalls can be a problem, but they do not need to be a deal-breaker. They can be managed. How they should be managed is a good subject for a story - and an informed public debate.



REUTERS: AKINTUNDE AKINLEYE

## STORY IDEAS

- How are oil and gas revenues distributed in your country? What do the public, politicians or civil society activists say about its fairness? Has it provoked any regional or community tensions?
- What are the likely obstacles to and potential pitfalls of sharing oil revenues in your country? Are they managed appropriately?

## SCHOOLS AND CLINICS

Companies carry out **Corporate Social Responsibility** or **CSR** projects in exploration or production areas, or the nation more widely. Some build schools or clinics, libraries or social centres. Others build roads or ensure clean water or power supplies. Others offer farming or other projects to boost the local economy and provide jobs outside the oil or gas sector.

A question for the journalist is: Are they to help or are they designed to make the company look good, buy goodwill from the local community and the government and demonstrate to other producing or would-be producing countries that they are good corporate citizens and good to do business with?

## GENUINE NEED

If a company does not investigate properly before launching into a project, the community may end up with something it doesn't really need or which it can't use. There's little point building a clinic if you don't provide staff, equipment and supplies. If that's left to a government that lacks funds or the will to provide what's necessary, the clinic will remain an empty shell.

Another question might be: Are CSR costs tax deductible? If they are, the country, rather than the company, will be paying for the project, possibly without having any real say in it. The project may, however, respond to a real need.

As always, it's better to keep an open mind until you have established the facts.

## STORY IDEAS

- What CSR projects are planned, or have been completed, by oil companies operating in your country? What impact have they had? What do affected or other communities say about them?
- Are CSR costs tax deductible in your country?



REUTERS:AMIT DAVE

## THE NATURAL ENVIRONMENT

All sites are vulnerable, but some, for example Uganda's Murchison Falls national park, are more fragile than others.

Accidents can happen but the last thing a company wants is a major spillage with all the negative publicity that goes with it.

The 2010 Deepwater Horizon Macondo well blowout in the Gulf of Mexico was the world's worst oil disaster. It cost supermajor BP billions of dollars in compensation, largely because the pollution triggered a huge political storm in the United States.

Communities in other producing countries, such as Nigeria's polluted Niger Delta, carry less clout, but even there, a \$84 million 2015 settlement with the Bodo community for two spills by supermajor Royal Dutch Shell demonstrates that attitudes to accountability and environmental damage are changing.

The risk of accidents and who pays is one concern. What happens to waste is another.

## THE SOCIAL AND ECONOMIC ENVIRONMENT

The industry also has an impact on the economic, social and cultural life of communities in a project area. This can be for better or for worse.

At one level, it can offer the prospect of local development. On another, an influx of migrants, lured by expectations of work or easy money, can change the social mix and leave locals feeling left out. Locals can fall prey to unscrupulous speculators who buy up land or property at ridiculously low prices.

The industry's operations can also affect traditional livelihoods such as fishing or farming or, in some countries, burial and other sites with cultural or religious significance.



REUTERS: AFOLABI SOTUNDE



REUTERS: ATHIT PERAWONGMETHA

## STORY IDEAS

- What has been, or could be, the effect of the oil and gas industry on your country's natural environment? Who is responsible if something goes wrong?
- What could be the effect on the social or economic environment? What are the thoughts of people living close to where the companies operate?
- Who owns the land which the oil companies plan to use? What about the land where processing plants or pipelines might be built?

## EIA OR EIS?

National law or contracts, properly drafted, can offer protection against environmental damage, but not on their own. Most countries insist on an **Environmental Impact Assessment (EIA)** or **Statement (EIS)** before any project starts. That's like a snapshot of the state of the environment. It serves as a reference point against which to judge the impact of operations or an accident.

EIAs could make interesting stories but they are seldom covered. Questions might include who carries them out, how independent they are, or what they look at and the risks they flag. Another question might be who monitors operations. This could be a regulator, most likely the country's environmental protection agency, or NGOs or local communities themselves.

## EIA OR ESIA?

Some companies carry out an **Environmental and Social Impact (ESIA)** assessment before starting a project. This could highlight the likely social impact of a project.

A Social Impact Assessment, conducted with civil society organisations, could also offer interesting insights into

community needs before starting a Corporate Social Responsibility project.

CSR projects are sometimes as much about a company's image as the needs of the local community. The project may, whatever the company's motives, be a genuine attempt to make a real difference - and that too would be worth a story.

## DECOMMISSIONING OR REHABILITATION

An important part of any project is what happens once production has finished. Who's responsible for removing or managing waste? Who's responsible or accountable for restoring the site to the way it was before work started? For how long will a company remain responsible or liable? These questions can be best answered in a law or in the primary contract. As we've already seen, companies will be keen to minimise their liability, both in terms of cost or in time. One way to ensure that this remains at the heart of any project is to have **a separate rehabilitation or decommissioning fund** to which the company contributes gradually. The money that accumulates there will then be available to rehabilitate the site following its closure.



REUTERS: TODD KOROL

## STORY IDEAS

- Have oil and gas companies operating in your country conducted EIAs / ESIA's? Are they credible? What were the findings?
- What are the decommissioning plans for an industry site? Who is responsible, and for how long? Does your country have a decommissioning fund?



# DRILLING DEEPER

## THE HORSE'S MOUTH

What we've looked at so far scratches the surface. Like any subject, the more you know, the more you realise there's much more to learn. Let your natural curiosity be your guide.

The quickest way to learn is to ask the expert. Experts, contrary to what you might think, are often happy to help others understand their speciality better. Remember: There's no such thing as a silly question!

As a journalist, you need to be familiar with all the different specialities. You may find, however, that people in the industry have less across-the-board knowledge than you'd expect. A geologist, for example, may not be able to explain Dutch disease!

PR Newswire's **ProfNet** is a site which connects journalists to experts. **SourceWatch**, run by the U.S. Center for Media and Democracy, offers insights on individual sources' vested interests.

## THE INTERNET

A simple keyword search offers you a host of interesting sites. Don't believe everything you read! Think about vested interest.

Remember SourceWatch. Cross-check everything.

One approach is to look for sites that are well-placed to speak with authority on a given subject, or have no obvious vested interest. Alternatively, look for consensus among sites offering different perspectives.

The **Society of Petroleum Engineers (spe.org)** is one source of technical knowledge and information. So too is the **American Petroleum Institute (api.org)**, even though it is a trade body.

**Company websites** are another useful source of technical knowledge or information, but they are also an on-the-record source for a company's projects, policy and core values. **BP's site (bp.com)** and the annual statistical review of world energy markets it began publishing in 1952 offer an informed and recognised analysis of industry trends.

The U.S. **Energy Information Administration (eia.gov)**, **OPEC (opec.org)** or the **International Energy Agency (iea.org)** are other authoritative sources that offer country data, analysis or insights into trends in the market and the industry.

Specialist NGOs such as the **Natural Resource Governance Institute (resourcegovernance.org)**, formerly Revenue

Watch, or **Global Witness (globalwitness.org)** and the sites of initiatives such as **EITI** – remember that? – are other sources.

Transparency advocate **OpenOil (openoil.net)**, among a range of insights and innovative tools for reporters, offers access to actual contracts with tips on how to read them.

What about **Wikipedia**, the site we all use, without letting on? It's an obvious starting point for any research, but follow the links back to the primary sources it quotes. Remember: It's the Internet. Cross-check everything.



# SOURCES OF NEWS AND INFORMATION

## STAYING IN THE LOOP

**Rigzone (rigzone.com)**, which describes itself as “the upstream, exploration and production portal”, is one source of news. It also offers an impressive database of the world’s oil rigs, which includes information on their locations, controlling companies and contract status. Similar information can also be found using **FPSO’s**, albeit less exhaustive, oil rig database (**fps.com**). You could also check out **Platts (platts.com)** or the **Oil and Gas Journal (ogj.com)**. **Offshore Technology (offshore-technology.com)** is a site for professionals offering news and information on, you’ve guessed it, the offshore industry. Some of the language may be a bit technical, but what better way to deepen your knowledge at the same time.

As you trawl the Internet for information on companies involved in the industry in your country, you’ll stumble on other specialist sources of news. Remember: Don’t believe everything you read, and check and double check before writing anything.

In the meantime, don’t forget traditional news providers such as the **BBC, Reuters, Bloomberg or CNN**, or your competitors. You’ll find news – and sources – there that you can follow up and develop. Not every story has to be a scoop.

## PRESS RELEASES

Government or company press releases, for reasons of vested interest, are not necessarily the best sources of information. The same could be said of statements or speeches by politicians or senior company executives.

They might rate a story, particularly if they announce a new development or signal change. They also offer you one side’s version of events on-the-record, but, more often than not, they are crafted to put a positive gloss on something. Many offer a starting point for an investigation that begins with the question: “*Who or what is it going to affect and how?*”

So what other sources of information are there, and where should you be looking for them?

## DOCUMENTARY EVIDENCE

**Contracts**, if they are published, reports from **statutory bodies** or **EITI** or the minutes of parliamentary proceedings offer documentary proof. **Openoil.net** might be of help with contracts.

**Company web sites** or **what companies tell analysts, shareholders** or **regulatory authorities** in your country



or where they are registered can be another useful form of concrete evidence. Some of this may be published on the Internet.

**Court rulings**, perhaps in third countries where a company operates, are another potential source but, as with any information that might put a company in a bad light, be scrupulously accurate in your reporting of what was said.

#### WHISTLEBLOWERS AND UNNAMED SOURCES

**Government** or **company officials** can be reluctant to speak on the record, or even at all.

**Whistle blowers** or **sources who don't want to be named** offer a different challenge. Sometimes what they have to say will be key to your story. You may need a description of the source that keeps their identity secret, but, if you offer the public their version of events in the form of direct quotes, it will add credibility to what they have to say and may offer details other players feel obliged to comment on.

#### CSOS OR NGOS

**Civil society** or **Non-Governmental Organisations (NGOs)** often have activists who follow the sector or work closely

with communities in affected areas. As with any source, think about their agenda, but they can make excellent sources of information.

#### INSIGHT AND ANALYSIS

Information is vital but so too is **context**. The **International Energy Agency (iea.org)** offers analysis of trends in the sector. So does **Chatham House**, the UK's Royal Institute of International Affairs.



REUTERS: YURI GRIPAS



REUTERS: KIERAN DOHERTY

## A CHANGING MARKET

The United States, following the 9/11 attacks, had a strategic interest in diversifying its sources of energy. With new reserves of conventional oil or gas more difficult to find, the industry looked towards non-conventional deposits. Oil prices strengthened from about 2003. There was a sharp dip after the 2008 financial crisis but strong demand pushed prices up around \$100, fuelling the U.S. shale revolution or development of Canadian oil sands and other non-conventional projects.

New risk-takers entered the market, often funding their projects with borrowed money, but fallout from the 2008 financial crisis, particularly its impact on China's economy, started to filter through. With consumers in the developed world feeling the pinch, markets there shrank. Demand for Chinese exports fell. In time, China's economy slowed, shrinking global demand for oil and gas.

At the same time, the shale revolution in the United States increased supply. In a market offering more oil than people needed, the price of dropped below \$50 a barrel in early 2015.

That, in itself, was good news for consuming countries. It was bad news for producers, and for the oil industry.

The collapse of the oil price put a question mark over some of the more expensive projects. As earnings per barrel fell, lenders became more stringent in their demands and companies had less money to invest in expensive new projects.

Some analysts speculated that OPEC swing producer Saudi Arabia, which has plentiful supplies of conventional oil and could cut back on production to shore up prices, was letting the oil price fall to slow investment in non-conventional oil or gas.

## PEAK OIL

Oil, as we've seen, is a finite resource. **Peak Oil** is the point at which known reserves start to tail off.

The calculation of when that point was or is likely to be reached depends on whether proven oil reserves declared by the interested parties – producers and the industry – are credible. Talk of Peak Oil and of alternative energy sources go hand in hand.

Development of non-conventional oil and gas, particularly in the United States, pushed Peak Oil off most people's radar but the collapse in the price of oil that started in 2014 raised questions about the cost and sustainability of the non-conventional boom.

There is, however, another factor that could have a huge impact on the industry - global warming and the threat extreme weather events pose to development and economies around the world.



REUTERS: LEE JAE WON

## STORY IDEA

- Is your country investing in its post-oil future? If yes, how? Should it? What do your sources – or your readers, listeners or viewers - say?



## GREENHOUSE GASES

A country's oil and gas reserves, as we've seen, do not last forever. With growing concern about climate change and pressure to cut use of greenhouse gas emitting fossil fuels, the same might be said of the market for oil and gas. You may not need to understand the climate change arguments for day-to-day reporting on oil and gas, but they will offer you valuable context when analysing policy.

The U.N. Intergovernmental Panel on Climate Change (IPCC) said in a 2014 report that the world is warming at a dangerous rate because of such human activity as the burning of fossil fuels. It warned that the planet risks "severe, pervasive and irreversible" damage if unrestricted use of fossil fuels – oil, gas, coal – does not end by 2100. Check out the IPCC at [ipcc.ch](http://ipcc.ch) to learn more about the arguments.

## RENEWABLE ENERGY SOURCES

Insurance and investment companies are already factoring in concerns about the future impact on their business of extreme weather events, which scientists say will increase in parts of the world as temperatures rise.

The climate debate and its impact on the global energy market are worth following.

Some scientists and policymakers see gas as a more climate-friendly energy source than oil, and particularly coal – at least in the short-term. It's one argument you hear in favour of fracking.

Investment in renewable energy sources could have a direct impact on the market for all three fossil fuels, particularly if renewables become more efficient and cheaper to produce. This would be relevant to any debate on the long-term sustainability of your country's oil or gas industry.



REUTERS: ASIM TANVEER



REUTERS: FABRIZIO BENSCH

## STORY IDEA

- Global efforts to tackle climate change may have an impact on the oil and gas industry. Has your government factored that into its thinking? Should it? What do your sources – or your readers, listeners or viewers – say?
- Is your government planning a transition towards renewable energy sources? Does it invest or plan to invest oil or gas money in these sources?

One idea to cut carbon emissions is to compensate developing countries for leaving their fossil fuels in the ground, in much the same way that projects to preserve the rain forest are compensated. That could mean your country earns money from its oil and gas and holds onto it. The idea may seem fanciful. Who would pay? How much? Exploiting your hydrocarbons might seem a safer bet in the short term.

If your country is already a producer or opts to go down that route, remember, oil and gas are like an inheritance. If you sell the family gold or silver and squander the proceeds, you end up with nothing. If your country strikes the best deal it can for your oil or gas, and invests the money wisely, then maybe, just maybe, it will be able to construct a sustainable future for all its citizens.



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