



ENERGY

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CHAPTER 3

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BUSINESS BEATS BASICS

ENERGY

INTRODUCTION

So you want to write about energy and mining. Good choice – this beat covers one of the critical business sectors underpinning modern life.

Every day, 90 million barrels of oil are pumped out of the ground, in Arabia's scorching deserts, Canada's boreal forests, or a mile beneath the ocean's surface. Millions of tons of coal, iron ore, and copper are dug out of vast open-pit mines in South Africa, Arizona, West Virginia, and Chile. The resulting materials are then transported via rail, ship, or pipeline, to where they're transformed into useful products – be it gasoline or diesel, steel bars or tin foil, or electricity. All of this happens so we can drive, build skyscrapers, wrap our sandwiches, and keep the lights on.

To understand the beat, the reporter must wrap their head around the dynamics of supply and demand. It's a game of scarcity and abundance – either situation can dramatically alter local economies.

It's also a story about infrastructure – the job of producing energy and moving and processing metals requires a tentacular network of machinery that can alter our roads, our coasts and our skylines. When this infrastructure network fails, it can result in disasters like blackouts, mine implosions, or giant oil spills.

And of course, it's a story about the environment and regulation – especially as energy production and consumption accounts for a large share of the gasses many scientists blame for climate change.

MAKE CONNECTIONS

Most refiners, energy companies, utilities, and pipeline operators have local spokespeople. Know who they are and have them show you around – this will help you get information more quickly when a crisis breaks.



WHERE TO BEGIN

In short, we're talking about a vast field, which for the sake of convenience we'll split into three categories.

THE OIL AND GAS COMPLEX

Historically, oil is the backbone of our car- and plane-based transportation system. Its cousin, natural gas, can also be used for transportation, but it's mainly employed in generating electricity and heat.

Demand for oil and gas has meant that the companies that produce these commodities have become some of the largest in history. Some of the biggest, especially in the oil sector, are owned and run by national governments – for example, Saudi Aramco is the Saudi Kingdom's national oil company. Some of these national governments are heavily reliant on revenue from oil and therefore have formed groups – such as the Organization of Petroleum Exporting Countries (OPEC) – to try to maintain prices at a level that will bring them plenty of profit, but that is not so high that it will depress the economies of consuming countries.

When OPEC decides to raise oil output, prices at the pump in the U.S. are likely to fall, unless shortages elsewhere or a jump in demand offset the new amount of crude that comes into the market.

The United States became the leading oil producer in 2018, followed closely by Saudi Arabia and Russia. The U.S. has maintained that position since, as of the most recent update of this chapter. Other top producers include China, Canada, Iraq, Iran and Brazil.

Within the U.S., the largest crude oil reserves lie in Texas, North Dakota, and the Gulf of Mexico.



UTILITIES

Electric utilities convert energy into electricity by harnessing the movement of wind and water, the power of the atom, or by burning fossil fuels such as coal and natural gas. Sometimes operating under heavy regulation, utilities provide power to residences, industries, and cellphones. But they're becoming a major player in the transportation sector as electric cars become more popular.

Some utilities, like Seattle City Light, are owned by municipalities. Others, like Dynegy Inc., are publicly traded. And others, such as TXU or Puget Sound Energy, belong to private equity firms. The main challenge these companies

face is coping with an increasing demand for power.

MINING

Like oil and gas companies, the mining industry is riding high on China and India's growing appetites. After accumulating billions in profits, behemoths like Australia's BHP Billiton and Rio Tinto are scouring the globe, looking to acquire assets and other companies. The growth in demand for metals, however, is creating supply bottlenecks due to scarcity of some materials (such as rare earths) or lack of infrastructure. Traders have also been stockpiling metal, which is still seen as a safe investment amid sluggish economic recovery, creating a bottleneck in warehousing capacity.



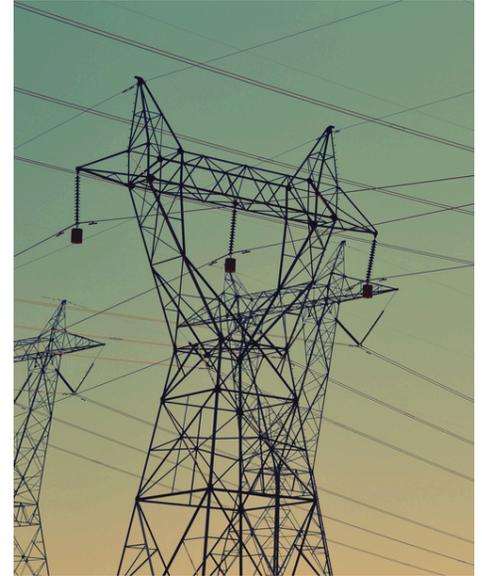
CHALLENGES AND PITFALLS

From securing access to interview an oil executive to maneuvering through complicated scientific arguments, reporters covering energy, utilities, and mining need to be aware of the challenges of covering the beat. Here are a few of the most common.

TIGHT-LIPPED COMPANIES

Oil and mining companies built fortunes on keeping secrets: where they are going to drill or mine is information that their competitors can use to buy leases next door. To break through the ice, reporters must become experts on their beat – take a tour of the companies' facilities, meet their executives, and understand their business. That will enable you to ask intelligent questions, and most importantly, understand the answers.

Be ready to pore over the fine print of financial statements – that usually contains good nuggets of information related to operational performance or new lawsuits faced by the companies.



WHAT GOES UP, GOES DOWN

Historically, commodity markets experience alternating periods of abundance or scarcity. The length of these periods varies, but generally what comes up eventually goes down. During boom periods, many observers of energy prices seem to think in apocalyptic terms. But technological innovation can play a surprising role in the availability of new resources. For example, oil companies learned how to tap deep-water and tight-rock reservoirs once thought to be unattainable.

NAVIGATING THROUGH SCIENTIFIC CONTROVERSY

Reporters writing about energy in particular will have to wade through scientific arguments in the course of their beat, so they should read up on the topic and be comfortable engaging with academic actors. A prime example is the controversy about shale gas: many environmentalists, backed by prestigious universities, say that extracting gas through fracking can result in the pollution of water resources near natural gas wells. Oil companies deny this, arguing that the natural gas seeps naturally into reservoirs. To write fairly and authoritatively about this requires a lot of in-depth and fair reporting.

Reporters should be mindful of hype and follow scientific trends closely while looking at every angle of a story. When quoting non-governmental organizations taking a stance on one issue or another, reporters should follow the money. See if a pro-fracking association is funded by the energy industry, or if an anti-fracking study is funded by the coal industry (producers of a competing fuel) or environmental activists. Financial backing doesn't invalidate opinions or arguments, but readers should know whether they come from interest-backed groups.

MAKE IT LOCAL

Energy, utilities, and mining operations are present throughout American life. The reporter at a medium or small-sized daily should have no trouble localizing global trends and understanding how the local tentacles of these far-reaching sectors affect their community. Here are some storylines that could yield lots of local news:

THE GREAT AMERICAN ENERGY REAWAKENING

The rediscovery of North America by large energy companies has been a blessing for local reporters. Once thought to be in rapid decline, the oil industry in the U.S. has been revived by two technologies: deepwater drilling and hydraulic fracturing – often referred to as “fracking.” These techniques, in combination with tougher governments in oil-rich nations, mean that the giant oil companies that once scoured the globe are now looking for riches in your own backyard.



The consequences are enormous – fiscally, because the local governments get more tax revenue; economically, because there are more jobs; and environmentally, because mistakes do happen. The way of life in communities all over the U.S. is being transformed by this revolution. As we saw during the BP oil spill of 2010, deepwater drilling is having a major impact on life in the Gulf Coast. Not only does it underpin the economy there, but it can also represent a danger.

New fields, whose exploitation is made possible by fracking, have literally brought the energy industry home to many regions in the U.S. that are unaccustomed to this kind of activity. For example, large swaths of the U.S. Northeast – New York, Ohio, New Jersey, and Pennsylvania – sit below a rich natural gas field called the Marcellus Shale, and there’s drilling going on under local churches, schools, airports, and cemeteries. Since this is a new energy-producing area, reporters are playing a key role in informing the local audience about what has turned out to be a controversial development. Familiarize yourself with leases, royalties, the science of fracking, and natural gas companies setting up shop.

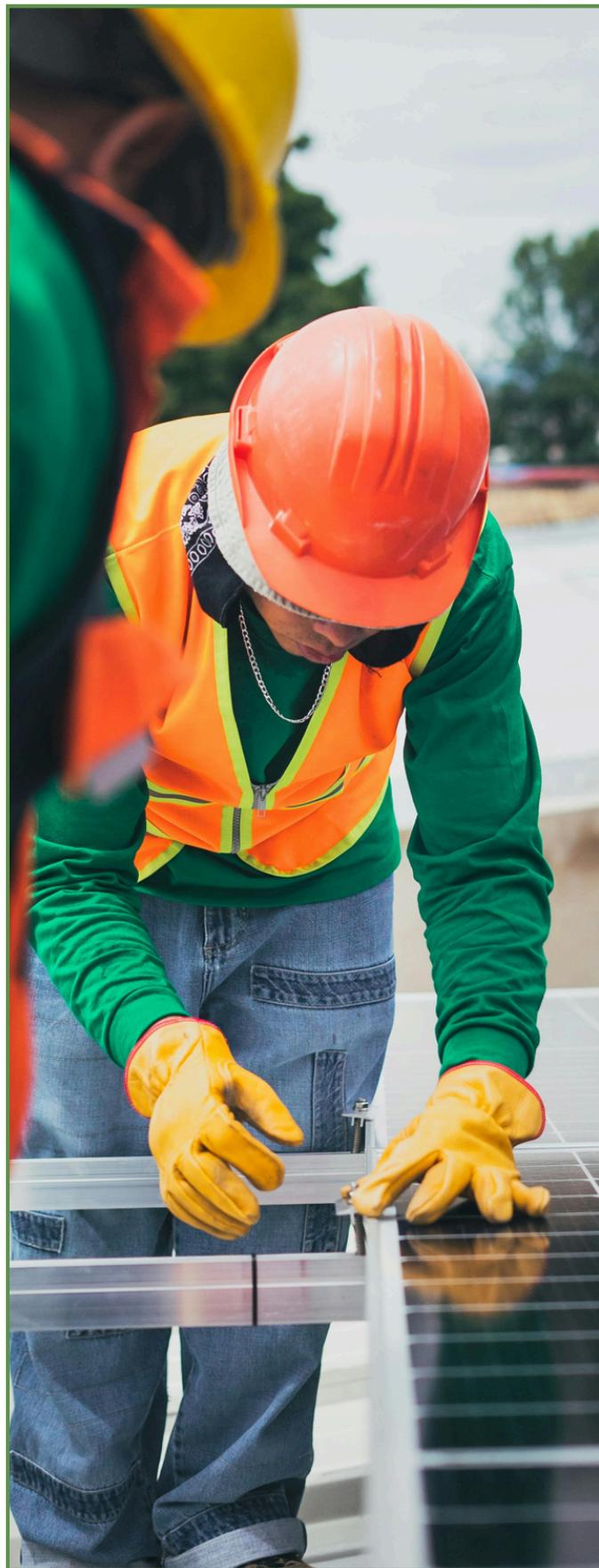
A JUNGLE OF INFRASTRUCTURE: REFINERIES, POWER PLANTS, NUCLEAR PLANTS, PIPELINES, MINES

Wherever you are in the U.S., it's likely that you're close to a refining hub – and that natural gas and oil pipelines are buried nearby. If you are in Seattle, get to know the Anacortes refineries – and be ready to know about any disruption to the Alaska oil they process (that will likely jack up local gas prices). Get to know the companies' safety stats and be ready to report on fires, harmful gas emissions, and other accidents that can occur in these facilities.

If you're in Arizona, Kentucky, or West Virginia, it's likely that you'll be close to a mining culture – follow the big picture evolution of copper prices or the demand for coal to anticipate swings in local fortunes.

No matter where you are, it's important to know your local power provider(s) and the state regulator that oversees power price changes. Check what their power mix is – how much hydroelectric, wind, coal, nuclear, and natural gas each make up of it. Track the price of these commodities – they're indicators of whether power prices will go up or down. Many utilities across the country are having a hard time keeping up with growth projections – figure out how much they're investing in new power generation, and of what kind.

Similarly, know the pipelines in your region – see what water bodies they cross and what refineries or areas they serve – so you can be ready to roll in case news breaks. Keep an eye on the national news, as your community may be impacted by what is happening in a neighboring state.



HELPFUL RESOURCES

From associations with great experts for your interviews to where to find relevant data, here are some great resources to get you started on covering energy in your local community.

Energy Information Administration

eia.gov

This Department of Energy agency is a trove of statistics about energy use, including state-level figures and history of electricity and fuel prices. It also contains a good explanation of how gasoline prices work.

U.S. Bureau of Ocean Energy Management, Regulation and Enforcement

boem.gov

Agency that regulates the exploitation of energy in the federal offshore. Their website has a rich database of permits and production figures.

Mine Safety and Health Administration

msha.gov

Agency that oversees mining safety in the U.S. and operates under the Department of Labor. Has information about accidents.

Federal Energy Regulatory Commission

ferc.gov

Regulates interstate transmission of electricity, gas and oil, as well as liquefied natural gas facilities. Contains up-to-date info on liquefied natural gas terminals.

U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration

phmsa.dot.gov

This is the agency that supervises pipeline safety in the United States. Their website hosts a trove of resources including the National Pipeline Mapping System that you can use to find pipelines in your local area.

U.S. Geological Survey's Minerals Information

usgs.gov

Here you'll find data about supply and demand of minerals.

American Gas Association

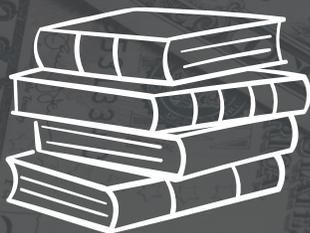
aga.org

A leading derivative marketplace, excellent resource for crop prices, grain futures and other agriculture news.

American Petroleum Institute

api.org

Lobby group representing oil companies in Washington D.C. Good resource for a quick response with the industry's viewpoint on many different issues.



The Prize (1990)

by Daniel Yergin

A Pulitzer Prize-winning history book on the oil industry, which is seen by many as the most authoritative read on the topic.

California Burning (2022)

by Katherine Blunt

The Wall Street Journal reporter examines the legacy of Pacific Gas and Electric and how it all fell apart when it prioritized profits and politics while power lines went unchecked leading to the deadliest wildfire in California history.

TERMS TO KNOW

Barrels

The barrel is the basic measuring unit for the global oil trade. It's equivalent to about 42 gallons. A company or a field's production, or a refinery's processing capacity, is usually measured in barrels per day.

Biofuels

Fuels made out of (recently) living organisms – such as plants and animals. Traditional biofuels are ethanol made out of sugar cane or corn, and biodiesel is made of soy, animal fat, or palm oil. Cellulosic biofuels are the next generation: produced en masse from vegetable waste.

Brent Crude

A type of light, sweet crude delivered in the U.K. North Sea. It acts as the global benchmark; most global crude contracts are priced in relation to Brent Crude.

Crude

Natural petroleum (i.e. crude oil).

Cubic feet

That's the basic measurement for natural gas production. The U.S. produces over 90 billion cubic feet of natural gas every day. The average home uses about 200 cubic feet per day.

Deepwater drilling

Drilling at water depths beyond 500 feet. This process is usually conducted by a drillship (a large vessel equipped with a very long drill pipe) or by a drilling rig (a platform-like structure). The drilling rig is not to be confused with an oil platform, which is stationary and is used to produce and process oil and gas.

Fracking

Short for hydraulic fracturing. A technique that consists in injecting large quantities of high-pressure water and chemicals into porous rock, in order to release the oil or gas trapped within. It's normally combined with horizontal drilling, a newer technique that allows oil producers to extend a drilling pipe horizontally after reaching a certain depth. This combination has unleashed an energy revolution in onshore North America, but has stoked fears about potential contamination of aquifers near drilling sites.

Grid

The infrastructure that delivers electricity from its point of generation to its many points of consumption. The transmission network connects power plants to local distribution centers; the distribution network links these distribution centers to residences and factories. A smart grid is a computer assisted network theoretically capable of channeling excess power to where it's needed.

LNG (Liquefied natural gas)

Natural gas, in its normal, gaseous state, can be moved via pipeline. But it takes too much space to be profitably moved by ship if needed in another continent. The solution: to turn it into a liquid, by chilling it to unbelievably low temperatures. There are liquefaction terminals – which turn gas into liquid – and regasification terminals, which reheat the liquid back into its original form. In the U.S., most terminals are regasification terminals, but with the natural gas bounty unlocked by fracking, some companies are seeking to build liquefaction facilities.

Oil futures

A contract to deliver a certain quantity of oil at a given time in the future.

Oil producers

These are the companies that extract crude oil and gas from the ground. The largest are integrated – that is, they extract the oil, and they refine it into usable fuels. But most are so-called independent – like Chesapeake Energy Corp.

Nonpoint source pollution

Water or air pollution that comes from many sources and is difficult to trace back to a single point. Caused by rainfall or snowmelt moving over ground that picks up soil, pesticides, and chemicals from farms.

Refineries

These facilities take crude oil and convert it into gasoline, diesel, heating oil, jet fuel, and other products. The largest refining hub in the U.S. is located in the Texas-Louisiana coast, but there are smaller hubs all over the country.

Royalties

The amount of money that landowners receive from the resources extracted in their land. In the U.S., oil companies lease land from landowners – which can include the federal government – in order to develop oil and gas fields.

Spot crude market

The actual, "physical" purchase of crude by a refinery or trader.

West Texas Intermediate

The benchmark for crude oil futures traded in the U.S.; it's a type of light, sweet crude delivered at Cushing, Oklahoma, in the heart of the U.S. oil patch.

This chapter is based on the "Beats Basics" Energy section, originally published in 2011 and written by Angel Gonzalez, who helped lead the coverage of the energy industry for one of the world's top financial information services.