

The Top Pros and Cons of Natural Gas

Following the global shift towards a low-carbon future, the world is using natural gas as a transition fuel to renewable energy, so what are the advantages and disadvantages of natural gas? A high-capacity energy provider, natural gas is becoming the go-to power source for countries with growing economies and rising electricity demands.

As such, global natural gas demand is increasing, and Asia will become one of the largest natural gas consumers in the coming decades. This is supported by major liquified natural gas (LNG) projects undertaken in [Singapore](#) and [India](#) that are set to become operational after 2023.

Advantages of Natural Gas

Natural Gas is Abundant

One of the reasons natural gas is seeing rising demand is that it is an abundant natural resource. The International Energy Agency (IEA) estimates there are enough recoverable resources to [last around](#) 230 years. Natural gas deposits can be found around the world, making it easier for extraction and supply, potentially keeping prices low as long as the adequate infrastructure is present.



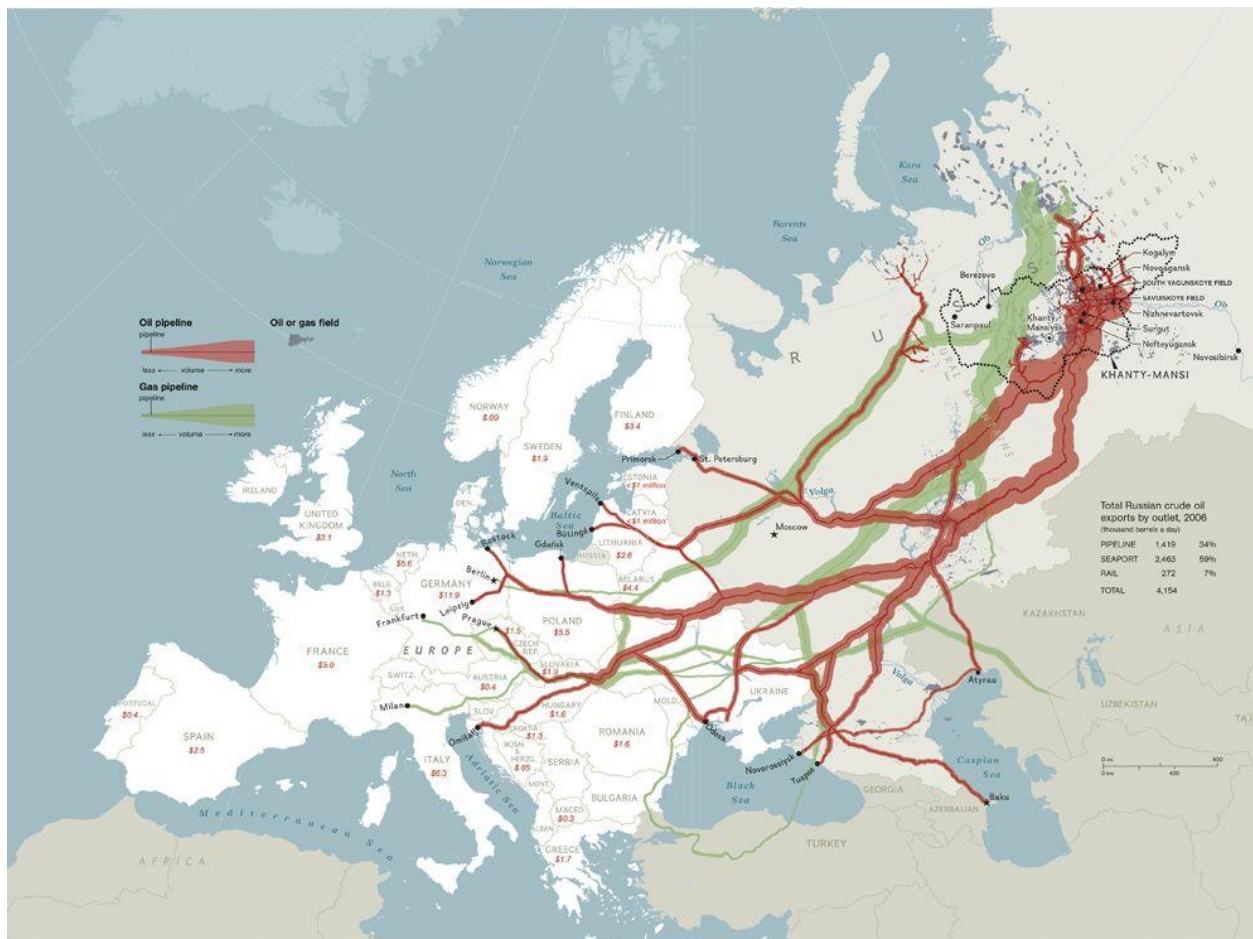
Source: [Science Direct](#)

Low Carbon Emissions

Natural gas expels the [least amount of carbon emissions](#) of all fossil fuels. This, in tandem with its high energy output, is the reason it is a natural bridging fuel. Consequently, this makes it a logical successor to coal and petroleum. Its low carbon emissions have made it an appealing power source for developed and developing economies like China, Europe, and the United States.

Rapid and Efficient Transport

[When cooled](#) to $-162\text{ }^{\circ}\text{C}$ ($-260\text{ }^{\circ}\text{F}$), natural gas becomes a liquid (LNG), filling only 1/600th of its original volume. This makes natural gas [easier to store and transport](#) long distances. When pipelines are available, natural gas is relatively easy to transport in its gaseous form. Natural gas supply chains are well established, with supply routes by sea and land serving several major hubs. New hubs and transport infrastructure will come online during the decade, further improving the rapidity and efficiency of the world's gas supply.



Source: [National Geographic Society](#)

Versatile Energy Source

Another advantage of natural gas is its [versatility](#). As a gas or as LNG, it can power electrical grids, heating systems, home cooking appliances, and some vehicles. Taking the above pros into account, natural gas' versatility increases its popularity and demand. This is especially true for developing countries, with natural gas having a prominent role in emerging economies globally.

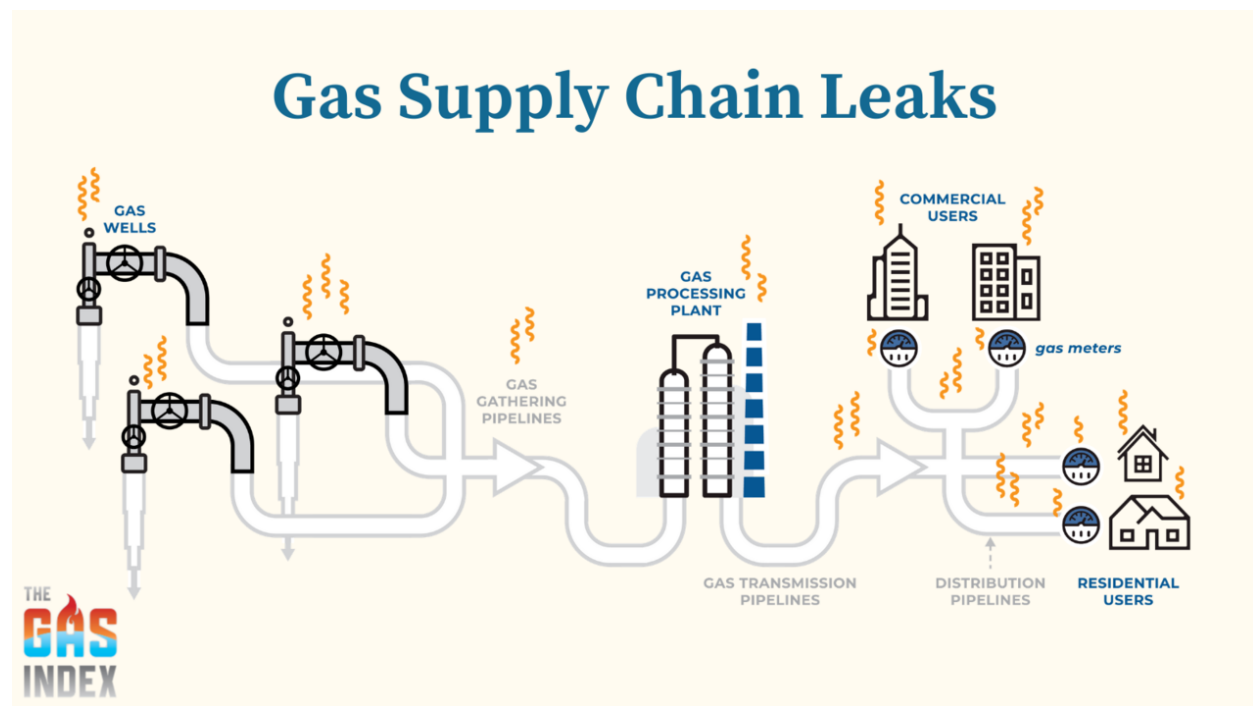
Disadvantages of Natural Gas

Gas is a Fossil Fuel

Gas' carbon emissions are lower than other fossil fuels, but it [remains a fossil fuel](#). Natural gas is not renewable unless under very specific circumstances. Either way, it produces more carbon dioxide than green energy. This is why it is a bridging fuel - it will fill the gap between the decommissioning of larger fossil fuel plants and the ability for renewable energy to be built on a large scale.

Methane Leaks

Natural gas is easy to transport and can be extracted from global locations - but these activities release [methane](#), a potent greenhouse gas, at every level of its supply chain. The global warming potential of methane is [28 to 34 times](#) higher than carbon dioxide. Methane leaks are hard to avoid, making natural gas a dirtier energy source than initially thought. This is compounded by the fact that natural gas can be considered a greenhouse gas, further emphasising its status as a fossil fuel.



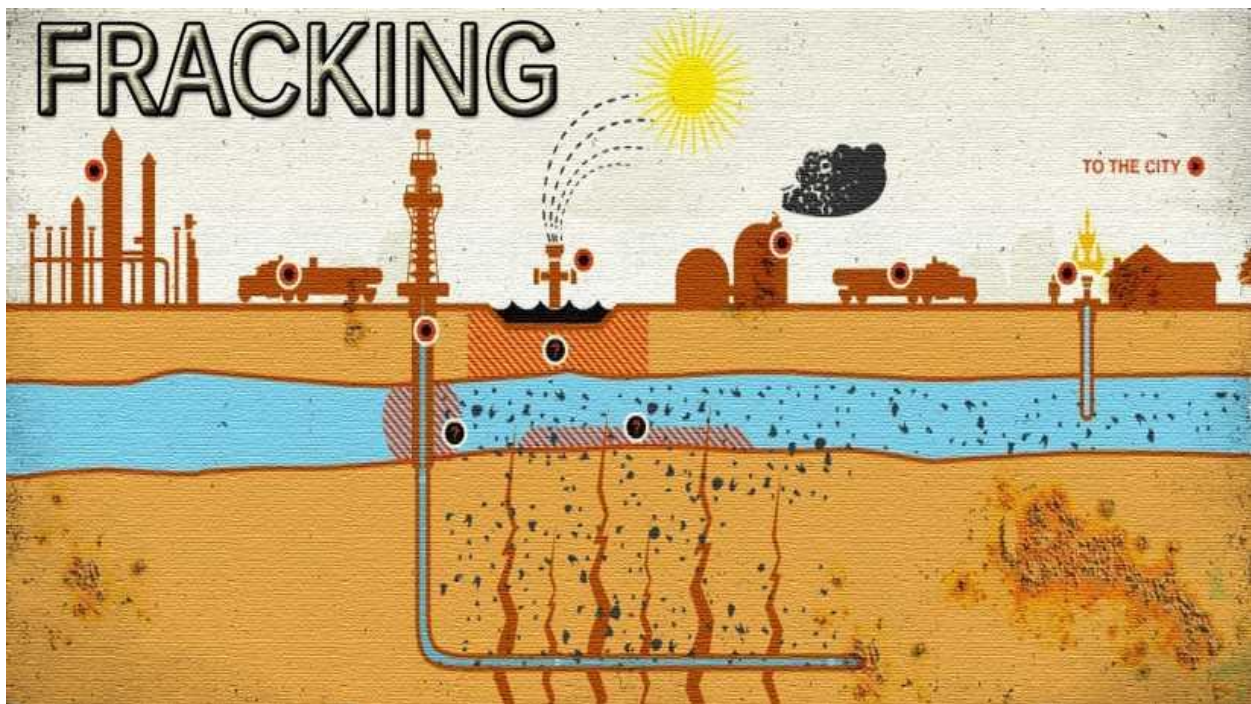
Source: [NRDC](#)

Price Volatility

Russia largely controls the natural gas [market in Europe](#) and to some extent, Asia. Issues with transport and political tensions have led to volatile natural gas prices in both regions. To keep prices stable and supply constant, infrastructure is under development in Europe and Asia that will come online after 2023. Looking at the United States, where natural gas supply chains are entirely domestic, prices are lower.

Sourcing Natural Gas

There are several ways of extracting natural gas, but fracking is one of the most common. Fracking involves pumping water into an underground gas deposit to bring it closer to the surface and has been linked to several major health issues, environmental damage, and large methane leaks. [In the United States](#), fracking makes up 67% of gas sourcing. While new projects emphasise a shift towards a more sustainable extraction process, fracking remains a cheap, popular sourcing option.



Source: [Netivist](#)

Do the Advantages Outweigh the Disadvantages of Natural Gas

Natural gas has several significant advantages and disadvantages that cancel each other out in some cases. For example, its role as a high-energy power source with low carbon dioxide emissions and ease of

transportation makes it a reliable energy source. However, methane leaks from supply chains, sourcing issues, and its status as a fossil fuel raise questions.

On the other side, its versatility makes it ideal for expanding economies like in Asia and price volatility will decline once infrastructure projects are completed later in the decade. The debate surrounding natural gas' role as a bridging fuel is sure to continue, but one thing is for certain: natural gas will have a major role in the global transition towards a low-carbon future.