

# Energy Pathways

**Energy pathway** - the flows of energy from the producer to the consumer

The energy pathway between producers and consumers are areas of considerable risk in terms of the energy security of a country.

## Energy Pathways:

There have been a number of new gas and oil pipelines proposed, however many of these haven't been built:

1. **Nord Stream** - a new pipeline proposed in order to get gas from Russia to Europe, specifically targeting the UK, Germany, France, Denmark, Holland. The pipeline is needed in order to meet the increased future demand of gas, as the UK's imports are expected to increase by 50%. Pipes were laid in 2011 and 2012 and is expected to be the longest sub-sea pipeline in the world.
2. **South Stream** - This was first planned in 2007 however they were cancelled in 2014 due to it no longer being economically viable. The plans included bypassing Ukraine however this was considered too costly
3. **Nabucco** - plans were aborted for this in 2013. The plans involved increasing Europe's oil security, however they were reduced and then cancelled although in 2013. Experts say that we will still be reliant on Russian oil until at least 2020.
4. **The Chad Cameroon Oil Pipeline** - This is a \$3.7 billion project connecting 300 oil wells extracting over 1 billion barrels of oil over 25 years. The beginning of the pipeline is located in southwest Chad. The oil, once extracted, then travels 640 miles through Cameroon to a loading facility. The project aims to procure large revenues and therefore reduce poverty in Chad. However \$4.5 million of \$25 million revenues was used in 2000 by the President of Chad to buy weapons arguing that development must be protected.

## CASE STUDY: Russia-Ukraine Gas

Tensions between Russia and Ukraine have been high since 2004 due to political changes that have occurred in and around these countries. Russia also opposes the fact that Ukraine wants to join NATO and the EU. The tensions between Ukraine and Russia are of great importance because the EU gets 1/4 of its gas from Russia, of which 80% passes through Ukraine.

Each year there are negotiations surrounding the renewal of gas contracts between Russian and Ukraine. However by New Year's Eve 2008 a deal had not been reached. As a result Russia cut off the gas supply to Ukraine. This left many other European countries without gas during a cold winter. Some countries such as Bulgaria, Serbia and Bosnia are completely dependent on the gas supplies from Ukraine and were therefore left with major shortages in a very cold winter.

In June 2014 there was further trouble when the state owned Russian gas provider Gazprom cut off the gas supply to Ukraine once again. Gazprom did this because they argued that Ukraine hadn't paid up front for its gas and owed a total of £3.1 billion in unpaid gas supplies. After numerous talks and law suits Kiev said that it would pay £1.5 billion of the debt if the gas was supplied to them at \$326 per 1000m<sup>3</sup> in the future. However the final deal that was made was \$385 per 1000m<sup>3</sup>. Russia and Ukraine decided that it was in both of their interests to keep gas flowing into Europe.



### Risks to energy pathways:

There are a number of different ways in which energy pathways are at risk, these are:

1. **Geopolitics** - Russia and Ukraine have a long history of tension surrounding the supply of gas to Ukraine and the rest of Europe. For example in 2014 Gazprom, the state owned Russian gas supplier, cut off the gas supply. Ukraine owed £3.1 billion allegedly, but only agreed to pay £1.5 billion.
2. **Terrorism** - The extremist group the 'so-called' Islamic State have captured oil industry in Syria, making them the wealthiest terror group. They make an estimated \$3 million a day from the illegal oil trade
3. **Infrastructure** - The exploitation of the Buncefield oil depot in Hertfordshire in 2005 means that a fire and explosion caused a loss of fuel worth £10 million. Buncefield supplied Heathrow with 30% of its fuel so as a result Heathrow has to be rationed with fuel.
4. **Natural Disasters** - In 2005 Hurricane Katrina affected oil production and refining in the Gulf of Mexico. As a result oil and petrol prices rose and 10 days after the hurricane oil production was only at 42%. Wildfires in April 2006 at Fort McMurray also meant that many peoples homes were destroyed and the tar sands oil boom in the area was affected.
5. **War/Conflict** - In 1991 Iraqi troops retreating from Kuwait at the end of the Gulf War set fire to over 600 Kuwaiti oil wells. Fires burnt for 8 months, consuming 6 million barrels of oil and 70-100 million m<sup>3</sup> of gas.
6. **Piracy** - In April 2014 pirates hijacked a Japanese oil tanker in the Malaca Straits and abducted three crew. Nigeria though suffers more from piracy. It has been esitimated that Nigeria looses a huge 400,000 barrels of oil a day due to pirates in the Gulf of Guinea. The overall damage of this is that African countries are losing around \$1.5 billion a day due to piracy, theft and fraud of oil.

