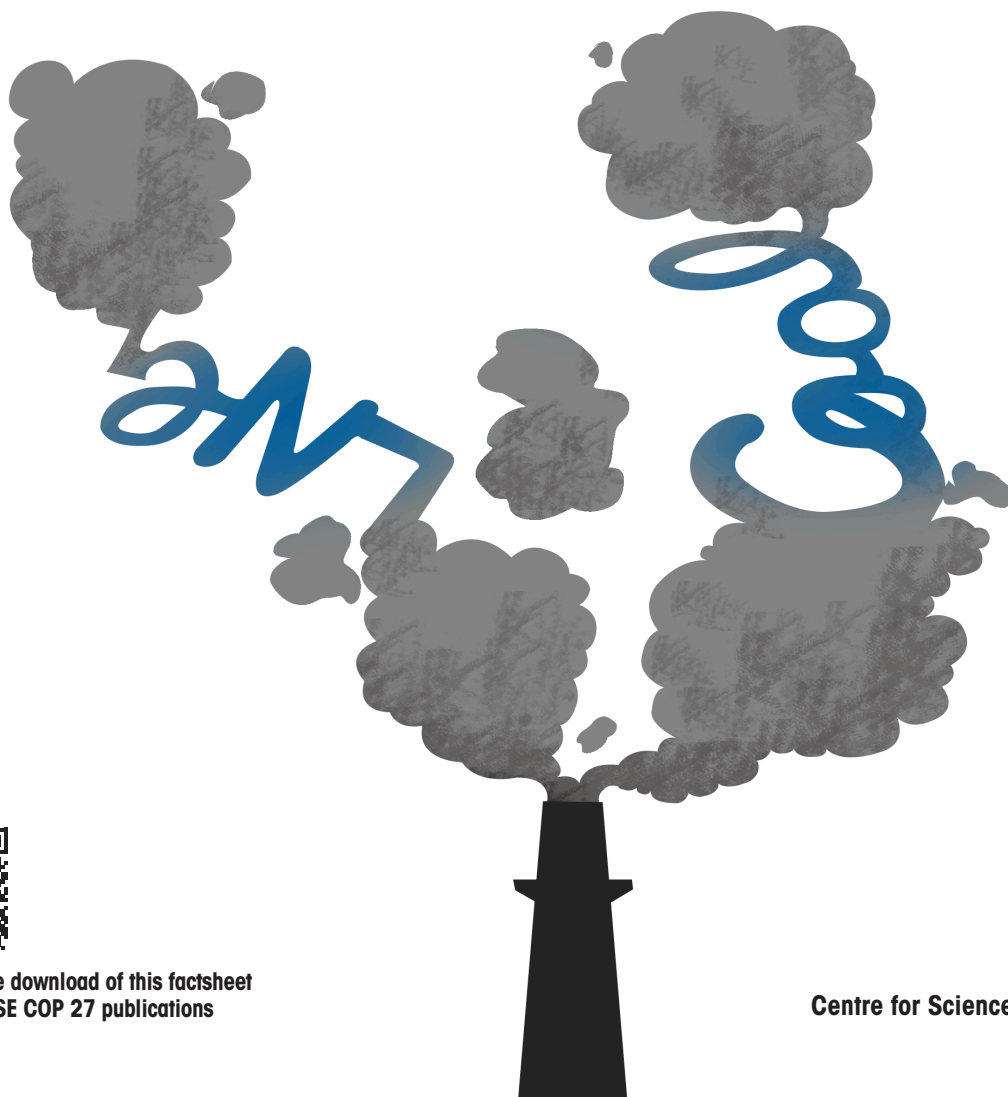




ENERGY

Fossil fuel is fossil fuel. Can it be called clean?

Also, what about the question of climate equity when it comes to natural gas from Africa?



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Our energy-guzzling world is at a cusp. It could find a way to leverage the current crisis of energy scarcity and rising prices to reinvent the fossil-fuel-based system. Or it could reinvest in the same carbon-intensive energy system, as people in the already-rich countries get increasingly desperate for reliable and affordable power to light and heat their homes this winter. This is an important moment in time and one that makes the actions to combat climate change even more contested and even more urgent.

Let us be clear that in this moment, the already-developed countries—we point to them because these countries have already burnt massive amounts of carbon dioxide for energy to build their economies—are faced with a real energy conundrum. They have already overused their share of the atmospheric space as emissions from burning fossil fuels—first coal and then natural gas and oil—and have brought the world to this precipice point. They need to invent their energy systems and they said in their many pronouncements that they would move away from fossil to cleaner renewable energy systems. The question is—today, when the rubber has hit the road—will they?

It is a double-punch moment as well. On the one hand, these countries—from Europe to USA—are battered because of a fast-heating planet; temperatures have gone through the roof; droughts and extreme weather events are hitting them as well. They know that climate change is a great equaliser and that as emissions stock up in the atmosphere, temperatures will increase and make for an untenable future. On the other hand, ordinary people across Europe are worried—not just because of climate change, but because of lack of energy to heat their homes this coming winter. In the UK, energy prices have spiralled—also because of the lack of regulatory control on the domestic gas production—and it is making for a tense polity.

Energy disruption has provided the much-needed vault to the beleaguered fossil fuel industry; it has given it a new lease of life

The fact is that this energy disruption has provided the much-needed vault to the beleaguered fossil fuel industry; it has given it a new lease of life. Today, governments have changed their tune; they are asking this industry to dig more, to drill more, to supply more. Europe has baptized natural gas a fossil fuel—less polluting than coal, but still a major emitter of carbon dioxide—as “clean”. Norway and UK have rebooted their oil and gas drilling; Germany and others in Europe are looking for new suppliers of liquefied natural gas (LNG) from every distant shore and building infrastructure to pipe and pump this. The US has passed a climate bill (called the Inflation Reduction Act) which will invest in renewable energy, but this is conditional to spends on oil and gas in Alaska and the Gulf of Mexico, and the opening up of millions of acres of federal land for drilling. This renewed interest in fossil fuels must remain temporary and transient. However, given the nature of economies, once the investment has been made in this new infrastructure for LNG terminals or increased supply of fossil fuel from new oil and gas discoveries, it will be difficult to wean off.

The question is what is if natural gas—also a fossil fuel—can be called green now?

Let’s look at the basic energy facts:

Coal and gas contribute half of the world’s primary energy consumption; the rest is mainly oil (largely for transport) and biomass fuel that is used by poor women in the world to cook food.

Coal consumption in 2021 was some 44,473 TWh, of which China consumed 23,936 TWh— roughly half—India 5,580 TWh (12.5 per cent), US and EU 11 per cent each and the whole of the African continent consumed just 2.62 per cent.

Gas consumption in 2021—40,375 TWh—was notching up to coal consumption of which the US consumed 20 per cent and Russia and the EU 10 per cent each.

China accounted for roughly half, India 12.5 per cent, US and the EU 11 per cent each, and Africa just 2.62 per cent of the world's coal consumption in 2021

In 2021, according to the International Energy Agency, total energy-related greenhouse gas emissions from coal was 15.27 gigatonne of CO₂ equivalent (GtCO₂e), roughly 29 per cent of global greenhouse gas emissions. Natural gas contributed roughly half, i.e. 7.49 GtCO₂e (14 per cent of global emissions). This is because natural gas emits roughly 50 per cent less CO₂ than coal when it is burnt.

But the question is if this “accounting” of emissions is dependable. The fact is that natural gas comprises 70–90 per cent methane, which is an even more potent greenhouse gas. And the problem is that the world does not have adequate monitoring of methane emissions from the energy sector,

particularly because of leakages in pipelines, which are difficult to detect and control. It is estimated that leakage could be in the range of 1–10 per cent—this would add to the emissions from natural gas. This means that this so-called cleaner fossil fuel could be not so clean—or could be even as dirty as coal.

The question then is: What is the cost of abatement of these two fossil fuels? Clearly, you would assume that

as coal has double the CO₂ emissions, the cost of cleaning it will also be higher, i.e. double of gas. However, this may not be so accurate, partly because of abatement technologies that are based on the concentration of CO₂ in flue gas and the fact that methane abatement would also need to be factored into natural gas. The cost of carbon capture technology, estimated by Harvard Kennedy School,¹ was US \$20–132 per tonne of CO₂ against natural gas, which was in the range of US \$49–150 per tonne of CO₂. Clearly this needs further work as burning fossil fuel is the biggest problem when it comes to the climate emergency.

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African gas: Who should use?

The question is whether the already industrialised world should also get the “benefit” of using this somewhat cleaner fossil fuel. The fact is the carbon budget has already been appropriated by a few countries for their growth. These countries need deep decarbonisation, which would mean a transition to renewables and other non-fossil energy sources. They cannot reinvest in fossil fuels and call it clean and green.

The problem is not just that these countries will take up more of the carbon budget because of their continued use of fossil fuel. It also means that the price of energy transition will go up—already, LNG is being diverted to Europe, which has a higher capacity to pay the costs. This will mean that countries like India will find it difficult to get out of the coal trap. This is cheaper fuel, however dirty, and because it is under our ground it has a higher quotient for the energy security experts. It takes us backwards. It makes the entire world unsafe and insecure.

Today, countries in the EU have also started exploring energy source options other than Russia. The environment ministers of EU 27 have visited Norway, Qatar, Azerbaijan and especially North African countries such as Algeria and Egypt. Africa's natural gas reserves are vast and hence it is being seen by the

EU as a prominent source of energy.

A new gas liquefaction project on the west coast of Africa, near Senegal and Mauritania's coastline, is expected to have 15 trillion cubic feet of gas annually, which is five times what Germany used in 2019.

Algeria and Egypt accounted for 60 per cent of the gas production of the continent in 2020. Algeria produced 120 billion cubic metre of gas of which 70 per cent was consumed by Algeria

itself. Although Algeria already has two gas pipelines going into Italy and Spain, it exported around 31.8 billion tonnes billion cubic metre of gas.

The concern here is that with gas exports, can the domestic demand of the country be met in the future. More than 60 per cent of Egypt's gas is used for its own power requirements and it is sending most of its LNG exports to Asian markets. Egypt's prime minister has been quoted in newspaper reports² saying that by rerouting 15 per cent of its domestic gas usage to Europe, his country will earn an additional US \$450 million every month.

It is estimated that out of 1.4 billion people living in the African continent, 600 million don't have electricity, and 900 million lack access to cleaner cooking fuels.³ With a large gap in its own energy access and security, how justified is it to export large portions of its gas to the EU? Will this push the African continent towards cheaper and dirtier fuels? Will it add to the energy poverty of its people—this when we know that the cost of clean energy transformation is high and often unaffordable by poorer nations.

With a large gap in its own energy access and security, how justified is it for Africa to export large portions of its gas to the EU?

It is clear that the moral imperative is that historical polluters like the EU accelerate their transition from fossil fuels such as gas rather than getting entrapped in new infrastructures that would push them towards dependence on fossil fuels for the coming decades. And the available carbon budget—and the use of fossil fuels, like gas—should be the right of emerging and poorer nations.

Two, and this is linked to the first caveat, is that these countries are not entitled to more use of fossil fuels in our world of shrunk carbon budgets. They need to reduce emissions drastically and leave whatever little carbon budget space is remaining for poorer countries to use—this in real terms remains not using fossil fuels, but letting the continent of Africa or countries like India to use the available cleaner fossil fuels to drive economies and reduce local air pollution. It is not just a moral imperative, but a prerequisite for a world that has a chance to keep spiralling temperatures under check. This is what we need to keep in mind as countries reconcile their energy supply options with climate change.



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