

# MOZAMBIQUE News reports & clippings

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## Special report

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### What future for Cabo Delgado gas?

#### Part 1 - security

Security will be at the top of the agenda when President Filipe Nyusi meets French President Emmanuel Macron on Tuesday (18 May) in Paris. Also in Paris will be António Costa, who is both Portuguese Prime Minister and President of the Council of the European Union (EU), and he will probably also meet with Nyusi. But their agendas will be very different. Macron wants Nyusi to agree on a French security cordon so Total can return to Afungi. Costa wants Portuguese soldiers in Mozambique, preferably under an EU umbrella.

Total's declaration of *force majeure* and its complete withdrawal from Afungi means it does not expect to return soon - definitely not this year. But it has to return within two years. Longer than that will require renegotiating contracts - with buyers, contractors and the Mozambique government, And a delay in production to 2026 or 2027 will require rethinking about whether or not there is a long term market for gas (discussed in part 2 of this special report).

What Total decides determines what happened to the other large gas block (area 4), which is run by Exxon Mobil (with a 28% stake). Exxon has repeatedly delayed its final investment decision, now pushed back to 2023, and will not agree before Total is back at work. Area 4 has China's only gas investment in Mozambique; China National Petroleum Corporation (CNPC) has a 12% stake. The newsletter *China-Lusophone Brief* (30 Mar) says this investment is now imperilled. So what happens in the next two years determines the future of not just Total, but Exxon and its partners.

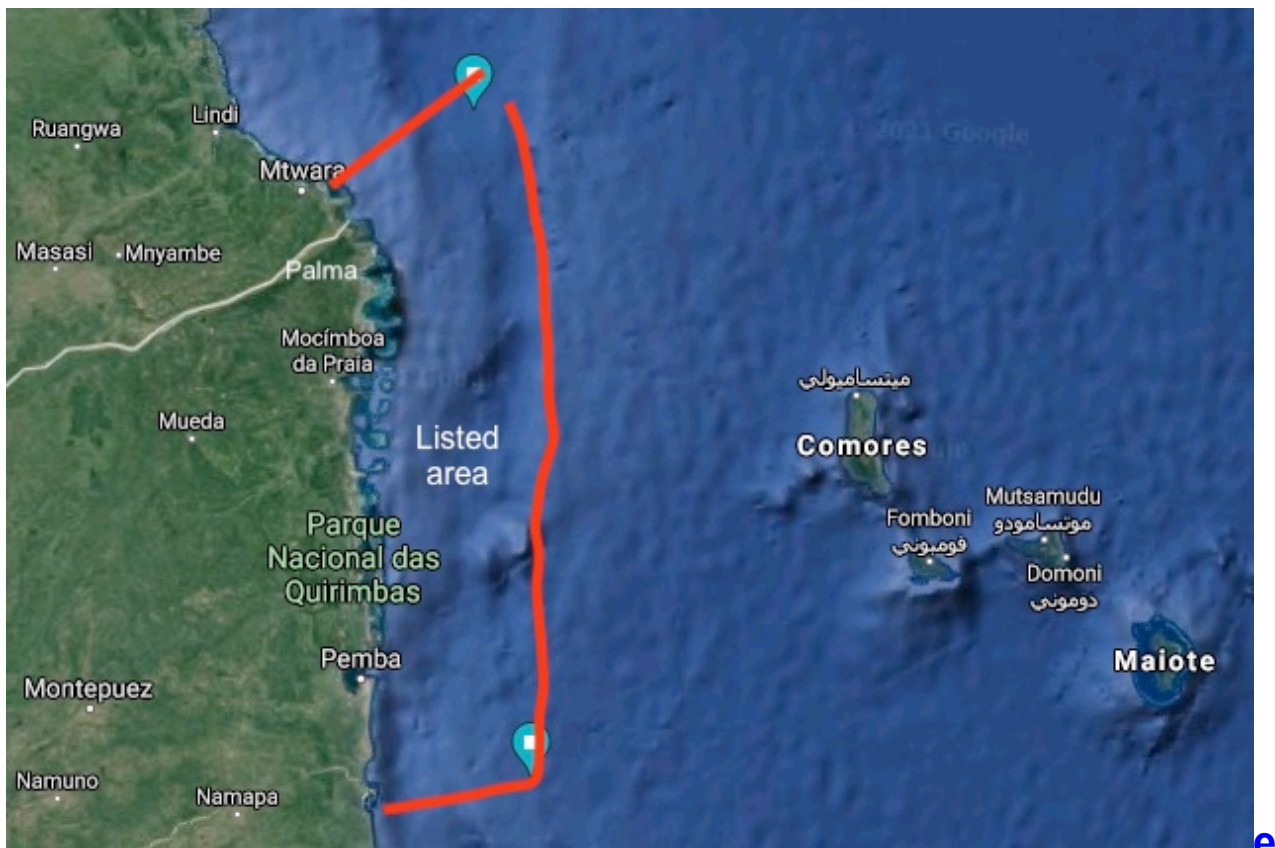
No amount of international military assistance will, within two years, create a fighting force that can combat the insurgency. Two other factors complicate external support. Foreign intervention is likely to provoke a response from Islamic State to provide weapons and training to the insurgents. And the fight is already underway between factions in Frelimo over the upcoming 2024 elections. Cabo Delgado politics and economics, the police and military, and the war itself are already caught up in the bitter infighting. Thus the war seems likely to escalate and continue until a new president is in place in 2025.

After being misled by President Nyusi in March about the ability of the Mozambican defence forces to protect Palma and Afungi, Macron will probably tell Nyusi that Total will only return if France has complete control of a large security zone. This will be hard for Frelimo to swallow and there will be delay, but they want the gas money and will eventually agree - especially if there is another successful attack on Palma.

This, in turn divides the war zone into French-controlled Palma-Afungi-offshore and the rest of Cabo Delgado. Below we look first at the French zone (considering separately off- and on-shore) and then at the emerging role of foreign forces.

Total has just appointed as its new head in Mozambique a man with war experience. Martin Deffontaines comes from being Total head in Democratic Republic of Congo and a decade ago was head in Yemen - where Total pulled out and has not returned.

## Lloyds calls Cabo Delgado coast and gas field a terrorism risk



## Will this be a French security zone?

The entire coast of Cabo Delgado and the sea up to 92 km offshore was named a "[Hull War, Piracy, Terrorism and Related Perils Listed Area](#)" on 26 April by the Joint War Committee (JWC) of Lloyd's Market Association (LMA) and the International Underwriting Association (IUA). The zone includes all of the gas fields, both Area 1 (Total) and Area 4 (Exxon) and will include ENI's Coral South floating LNG platform which is 50 km from the coast. (See map on previous page) This means any boat going to Pemba, Afungi or the gas installations is considered at risk and will need extra war insurance. (JWC circulars 026 and 027, 26 and 29 April)

This has serious implications for normal traffic into Pemba port and all shipping related to the gas fields. Total is unlikely to return until the listing is removed. Mozambique's navy does not have the capacity to protect the coast. French, South African and Indian navies have been patrolling the Mozambique Channel.

At present neither the insurgents nor the Mozambique navy have a significant maritime presence. The insurgents control the inshore areas, mainly with the use of small boats, but if foreign intervention provokes an escalation the insurgents could gain access to patrol boats.

The French frigate *Nivôse* has been on regular patrol in the Mozambique Channel and has captured drug traders. The frigate is stationed at the naval base in Réunion, a French overseas department 550 km east of Madagascar - sailing distance of 2400 km from Pemba. But the French island of Mayotte, 500 km east of Pemba, also has a military presence.

South Africa has been running a regular patrol along the Mozambique Channel called Operation Copper since 2011 to combat terrorist threats. Earlier this year the SA Navy ramped up patrols with a continued deployment of 200 soldiers, and said that Operation Copper would continue until March 2023. A recent Defence Force briefing to parliament said only that they were talking to the Mozambique government about this. (SABC 2 Apr; DefenceWeb 12 May)

India also has an interest in the Mozambique Channel and three ships on patrol were the first to reach Beira during cyclone Idai in 2019. India has done joint patrols with France. India has built a new naval base on North Agalega island, northeast of Madagascar.

It seems likely that Total and France will demand that the French navy takes control of the Cabo Delgado coastal waters and the gas area to get the terror listing lifted quickly, and maintain control for some years to come. But it would be possible to carry out joint patrols with the Mozambican, South Africa and Indian navies.

## And a land security zone

Total demanded a 25 km security zone around Afungi, which includes Palma. This is what Nyusi promised and failed to deliver, and will be the absolute minimum Total will demand now. And it will have to be a security zone controlled by France - with French private military companies (PMCs) or French troops. France has had a military presence in the Sahel since 2014; it currently has 5000 soldiers there, an increase of 600 in the past year. This is presented as a fight against Islamic militants. Thus it would not be hard to justify a military presence to fight "Islamic terrorism" and protect Total in Mozambique.

But the shape of the intervention and the security zone is still being discussed. Palma and the resettlement town of Quitunda become key issues. Will significant numbers of Mozambicans be allowed inside the security zone, and how will this be controlled.

One model is the Baghdad Green zone of 2003-18 which was completely surrounded by blast walls and barbed wire fences, with tightly controlled entrance and exit. But 5000 Iraqi civilians lived inside the walls. A 25 km radius security zone with Palma inside would be much larger, but walls

could be built and modern technology such as Iris or fingerprint identification used to control access. Drones and surveillance cameras are now the norm and could control both sides of the wall.

An alternative model would be to expand the present Afungi walled city with few Mozambicans permanently inside, with slightly looser military control in the rest of the 25 km security zone - and perhaps joint French-Mozambican patrols. Modern drone warfare would permit close surveillance and rapid response to incidents.

One proposal already being discussed is to give the French the 10 km holiday island of Vamizi, which is only 25 km southeast of Afungi, and on the edge of the security zone. This would be a rapid response base with helicopters, attack and surveillance boats, and a drone control system.

Thus creating a French-controlled security zone could be done, probably in a year. And Total and its ex-military security staff have the experience to do it. But there are two questions. Who will pay? And would the Frelimo elite agree, or would they spin out negotiations indefinitely?

## And the war outside the security zone?

### Multiple foreign players

With Mozambique's defence forces (FDS) weak, divided and corrupt - and now at the centre of high level fights inside Frelimo - the FDS has little chance of winning a purely military war against guerrilla insurgents. That leaves two alternatives. One way is to resolve the grievances that are at the root of the war, sharing the resource wealth and creating thousands of jobs. That is unacceptable, because so many people are profiting, and because if Mozambique admits the cause of war is poverty and inequality, it is effectively admitting responsibility. The alternative route is to blame external aggression by Islamic State (IS) and call on outsiders to join the new holy war against IS. And this is the route that Frelimo has chosen.

Four countries and two international bodies have shown some interest in joining the war: the United States, Portugal, South Africa and Rwanda, as well as the Southern African Development Community (SADC) and the EU. Because of Total, France is also a possible player, although it might prefer to stick to its security zone.

**Portugal** is sending an 140-person training mission of whom 60 are already in Mozambique, training marines in KaTembe and commandos in Chimoio. Training will continue for three years. Portuguese and Mozambican defence ministers João Cravinho and Jamie Neto met in Lisbon 10 May and signed a five year military cooperation agreement.

**United States (US)** A dozen US special force soldiers completed two months of training of Mozambican marines on 5 May, and another training session will start in July. On 10 March the US called the insurgents "Islamic State of Iraq and Syria-Mozambique (ISIS-Mozambique)" and designated them as a "foreign terrorist organisation". The US said on 6 May that it would provide humanitarian assistance in response to what the US State Department called "devastating violence by ISIS-affiliated terrorists".

**Rwanda.** President Nyusi flew to Rwanda on 28 April and met President Paul Kagame, who promised military help. Just 10 days later, on 8 May, a Rwandan military mission was seen in Pemba.

**Southern African Development Community (SADC)** sent an assessment mission 15-21 April which recommended a 3,000-person regional military force plus submarines, surveillance aircraft and drones. SADC expects the EU and US to fund the mission. It would take a year or more to get such a mission on the ground. South African President Cyril Ramaphosa said on 10

May South Africa would join such a force if asked. But Mozambique has not encouraged the SADC mission.

**The European Union (EU)** is divided and slow. The European Union must move with “urgency” to step up its support for Mozambique, said Josep Borrell, EU “foreign minister” (High Representative for Foreign Affairs) on 6 May. But with a hint of frustration, he continued: “We are considering a potential European Union training mission, like the ones that we already have in several African countries.” Borrell said any mission would be similar to the EU’s involvement in the Sahel. He hoped a mission could be sent to Mozambique before the end of the year, and suggested sending 200-300 soldiers to Mozambique. Portugal currently holds the EU’s six month rotating Council presidency, and has been pushing for EU involvement in Mozambique. “Portugal has already offered half of the staff [and] sent in advance military structures. It will be integrated into the EU training mission, if we finally agree on that,” said Borrell. But there is no agreement yet.

**Private military contractors** continue to be involved. Helicopter pilots are being trained in Nacala, apparently by Burnham Global, and two Bell UH-1H helicopters were seen flying over Nacala on 11 May in what were apparently training flights.

Each country has its own reasons to want boots on the ground in Mozambique. Historically the US government has always needed enemies, and Islam has replaced communism as the evil empire; the US needs a new base in Africa to fight Islamic State and would like this to be in Mozambique. The South African military has seen major budget cuts - 14% this year - and would like to see a mission in Mozambique that attracts new, preferably foreign, money. Portugal, the US and South Africa all lost wars in Mozambique, and for their militaries there is a deep historic and neo-colonial desire to have troops in Mozambique to reassert their superiority.

## Does a military response ignore the roots of war?

The rush for military support has caused substantial debate. Many of the issues were raised in a letter from 30 African civil society organisations (CSOs) to SADC, in response to the proposal to send 3000 troops - a major military force. The CSOs' letter is on <http://bit.ly/Moz-CSO-SADC>.

It welcomes “collective action from SADC” but continues: “We urge our leaders to consider the lessons learnt from other similar conflicts in Africa. Sahel, Somalia, and the Niger Delta offer stark contemporary reminders that a purely militaristic solution (devoid of measures to address the causes of the insurgency) increases the likelihood of its intractability. It is also unlikely to pave the way towards achieving sustainable peace.”

“Any SADC intervention should also provide avenues to pursue political and diplomatic solutions to the conflict. This necessitates an acute understanding of the root causes of the conflict, push and pull factors that lead to the recruitment of locals and youth into insurgency operations, and the motivations of actors operating in the region.” Creating a sustainable peace requires creating “avenues for local communities to address their grievances with government, which is paramount to addressing the root causes of conflict.”

And the CSO letter calls for “holding government and businesses to the highest levels of accountability regarding their operations in Cabo Delgado. Corruption, maladministration, and skewed development are central to communities’ feelings of marginalization. Ensuring that citizens receive the lion’s share of dividends from gas revenue form part of broader longer-term socio-economic solutions to insurgency.”

Two key issues are raised by the CSOs' statement, the roots of the war and danger that foreign military forces will remain indefinitely.

There is a quite broad agreement that the insurgency was initially local and based on local grievances about growing poverty, inequality and marginalisation. The division is about what happened next. The US argues that the insurgency has been totally taken over by IS which now

commands and controls. But the respected International Crisis Group say IS does not have "the ability to exert command and control." Local researchers confirm that although there is contact with IS, command and control remains local and the grievances remain important for insurgent recruiting.

The CSOs stress the role of government and business in the "skewed development", which effectively puts the blame for the war on Frelimo and government. This suggests that diverting money from those getting rich on the gas and minerals and instead using the wealth to create jobs and development would play a key role in ending the war.

It is also central to the interveners. The US, EU and others would not support Mozambique to kill hungry, illiterate peasants demanding a share of the wealth. But they would intervene in a war against Islamic State.

And Frelimo and the Mozambique government are being very careful that those who intervene do not talk about grievances and root causes. Thus it supports intervention by foreign governments and private military companies, which it can control, and not by international bodies such as the UN, EU and SADC, which issue statements it cannot control.

The contrast is shown by two statements. On the national level, Portuguese Foreign Minister Augusto Santos Silva refused to comment on the grievances such as corruption and poverty in Cabo Delgado. "As the Minister of Foreign Affairs of Portugal, I do not speak about internal issues in other countries," he said.

But on the international level on 5 May the G7 Foreign and Development Ministers meeting in London discussed the war and called on Mozambique and the international community "to tackle the root causes and drivers of conflict and instability." Hanna Tetteh, special representative of UN Secretary-General António Guterres to the African Union (AU) said on 14 April that "a purely military response might not be the most effective response". She argued that "there is still the opportunity to be able to use political processes to try and get people to come back from the brink and to address some of the root causes of the conflicts".

## **The next Somalia or Libya?**

External intervention does not have a good track record. The US and NATO have been in Libya for 10 years, and the US is giving up and leaving Afghanistan after 20 years and Somalia after 14 years. France has been in the Sahel for 18 years. Zimbabwe, Angola, Namibia and South Africa intervened in the war in the Democratic Republic of Congo 20 years ago; they pulled out but the war continues.

Mozambique is in danger of becoming a "second Mali", or even a "second Somalia" warns Salvador Forquilha, a researcher and former director at the Institute of Social and Economic Studies (IESE). "The call for foreign intervention reveals a distorted way of looking at things. Foreign military intervention could make the problem worse."

French analyst and historian Michel Cahen stresses France's interests with Total in Cabo Delgado, but he argues foreign military intervention would not solve the problem. "France has been intervening in Mali and after all the efforts, and the deaths of dozens of French soldiers, the situation has not improved."

Analysts also point to the danger of escalation. Labelling the insurgents IS globalises a local civil war. This has a local impact because recruiters will say the government is acting as an agent of foreign powers. Locally, fighters will see their battle as part of a global struggle and not just against the government, and IS is likely, for the first time, to intervene seriously, with heavy weapons, boats, better communications, and money.

Foreign intervention also has support. Mozambican writer, Luís Bernardo Honwana, speaks for many when he says "we are being attacked and we have to defend ourselves, we have to expel the attackers and rebuild our lives", and if necessary Mozambique should accept external support to combat the terrorist attacks.

Roque Silva, Secretary-General of Frelimo, partly accepts the criticisms. "If the solution to the problem of terrorism was foreign troops, Afghanistan would not still be facing the problem of terrorism," Silva said on 20 April in Pemba, referring to "American and other troops" who remain there, "but the war does not end." He also cited Libya, where foreign troops are present, but instability persists. He would not accept foreign troops fighting the armed groups terrorizing Cabo Delgado, and would accept external support only in the areas of logistics and training.

But the government believes it can control the tiger. We never refuse help, but "we choose the type of help," explained President Nyusi in Pemba on 28 April. He also announced that the country's defence and security forces have a detailed plan to crack down on the terrorist groups, but gave no details

## What future for Cabo Delgado gas? Part 2 - the LNG market depends on 1.5° or 2°

"Gas is over," Werner Hoyer, the President of the European Investment Bank, said on 20 January 2021. "This is a serious departure from the past, but without the end to the use of unabated fossil fuels, we will not be able to reach the climate targets."

Just a week later, on 27 January, US climate envoy John Kerry warned the World Economic Forum that if we build a huge infrastructure for gas now to use it as a bridge fuel, and fail to exhaust the other possibilities, "we're gonna be stuck with stranded assets in 10 or 20 or 30 years" that are no longer needed. And he added, "gas is primarily methane and we have a huge methane problem, folks."

"Oil supermajors' mega-bet on natural gas: Is the least grubby hydrocarbon a bridge fuel to a greener future, or a trap?" asked an *Economist* headline (24 Apr). "No fuel's future is hazier," it adds. "Debate is intensifying over whether gas will be a bridge or a dead end."

The *Economist* says the two big players in Mozambique gas are still looking at increased production. "Total plans to double its LNG sales over the coming decade, while touting its plans to reduce methane emissions. ExxonMobil reckons that its new investments in carbon capture and storage will both limit emissions and support its traditional business."

### What decision in two years?

In two years when Total and ExxonMobil make decisions as to whether or not to go ahead, two seemingly abstruse climate change concepts will play a central role in whether or not they think there is a market for the gas. These will be intensely debated by the scientists and politicians at the UN Climate Change Conference (COP 26) in November this year (2021) in Glasgow - and after.

Mozambique will have no say in these high level debates, but the impact will be huge. Basically, the gas bonanza and fabulous wealth for Mozambique will happen only if world leaders agree to much worse cyclones, floods and droughts in Mozambique. And Mozambicans have no voice in decisions being taken over their heads.

The debate is over two targets for 2050, discussed below. First is that the 2016 Paris agreement on climate change agreed a political compromise which is proving to be central to the debate. It set the legally binding goal "to limit global warming to well below 2°, preferably to 1.5° Celsius, compared to pre-industrial levels." Half a degree may seem tiny, but 2° allows a gas boom while causing significant climate damage to Mozambique, while 1.5° means no gas but less damaging cyclones, floods and droughts in Mozambique, The oil and gas industry wants 2° and will have to decide in the next two years if this will be allowed.

The second debated target is "net-zero" carbon emissions by 2050.

The discussion has changed substantially in the past two years. The climate crisis is becoming worse, and gas is seen as just another fossil fuel, part of what has become a single word "coal-oil-gas". Pressure is on banks and pensions funds not to lend to and invest in any fossil fuel - including gas - and energy companies are under pressure to stop producing fossil fuels and move to renewables.

UK Prime Minister Boris Johnson announced on 12 December 2020 that the UK Government would end financing and support for overseas fossil fuel projects. One loan approved before the announcement was \$1.2 bn for the Total gas project. And on 22 April 2021 Friends of the Earth was given permission by the High Court in London to bring a case against the government to try to stop the \$1.2 bn credit because of increased greenhouse gas emissions. Both mark a change in mood, raising questions about gas.

A decade ago, natural gas was the wonder fuel with almost unlimited demand. It was seen as a "bridge" - a safer, cleaner alternative to coal and oil and an incremental step to reduce the greenhouse gas emissions that are driving climate change. Now that is being challenged.

If security can be guaranteed, in two years Total and ExxonMobil will go ahead with up to \$50 bn in investments if they think gas will continue to be seen as a bridge fuel. But they will not go ahead if they think Hoyer and Kerry are right to predict gas will mainly be seen as a fossil fuel and not a bridge fuel.

One other issue is now on the table. Gas is methane (CH<sub>4</sub>), which is also a greenhouse gas. Methane has more than 80 times the warming power of carbon dioxide (CO<sub>2</sub>) over the first 20 years after it reaches the atmosphere. Even though CO<sub>2</sub> has a longer-lasting effect, methane does its warming in the near term. Thus curbing methane creates a window now to allow later cuts in carbon dioxide.

In the following sections we look at 1.5° versus 2° and why that is important to the gas market and the Cabo Delgado decision, followed by "net-zero", and methane.

## 1.5° or 2°?

The 2016 Paris agreement "to limit global warming to well below 2°, preferably to 1.5° Celsius, compared to pre-industrial levels" was a political fudge. Scientists and coastal and island states wanted 1.5° while oil and gas countries and companies would only agree to 2°.

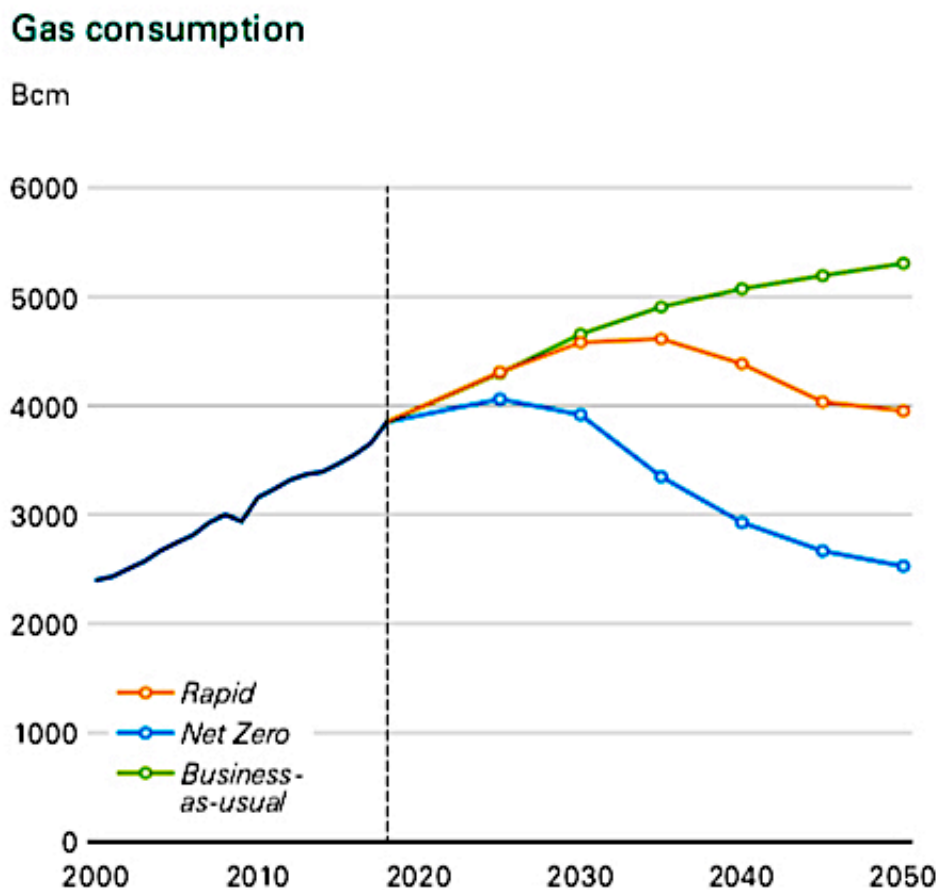
Half a degree seemed too small to argue about. But in 2018 the Intergovernmental Panel on Climate Change (IPCC), the official and highly respected research agency, issued a report comparing 1.5° and 2°. It found the impact is unexpectedly huge. IPCC said 2° would bring higher land and sea temperatures, hotter extremes in most inhabited regions, as well as heavy precipitation in some places and drought in others.

Mozambique is already seeing the impact of the climate emergency. The rise in sea temperature is causing more, stronger, and more northern cyclones. Drought in the south is worsening. And there has been more local heavy rain and flooding. Even with a 1.5° target this will get worse, but with a 2° target problems will be much greater.



But the difference has an unexpected impact on demand for gas. BP, whose research is respected, in its 2020 Energy Outlook (published 21 September 2020) published a very useful graph of predicted gas consumption. It takes three scenarios:

- + **Business as usual** (the top green line on the graph below). The Gas Exporting Countries Forum Global Gas Outlook 2050, published 24 Feb 2021, says gas consumption will follow this line.
- + **Rapid** scenario (the orange line in the middle) which assumes global warming limited to below 2° above pre-industrial levels and which is the target used by the energy industry.
- + **Net zero** which assumes global warming is limited to 1.5° degrees above pre-industrial levels (the blue line at the bottom).



The net zero 1.5° blue line shows peak gas consumption will have been reached before the Total project comes on line. By contrast, the below 2° orange line shows 15 years more growth in gas consumption and only drops to current levels in 2050, near the end of the life of Mozambique's gas field. BP notes that "LNG expands substantially" in the rapid (2°) scenario. "This fast growth is driven by increasing gas demand in developing Asia (China, India and Other Asia) as gas is used to aid the switch away from coal and LNG imports are the main source of incremental supply."

In the 2° scenario, oil and coal are cut more quickly and gas is the bridge fuel rising to fill the gap. In the 1.5° scenario, gas is treated as a just another fossil fuel which must be cut as well.

And the choice for Mozambique's gas is clear. At 2° there will be a substantial demand increase and a gap to be filled. At 1.5°, there will be no market for the gas.

## Net zero

"Net zero" carbon dioxide by 2050 has become an accepted goal. The "net" part means that fossil fuels continue to be used, but carbon dioxide is removed from the system. Some of this is done

with carbon dioxide storage, typically underground in old gas wells. Carbon itself can be removed and turned into piles of black dust. Some carbon and carbon dioxide can be used in manufacturing.

There is growing interest in closed systems, and John Kerry also pointed to zero emissions steel and cement production. And if nothing else can be done, the energy companies fall back to planting more trees and creating more carbon trading systems. The critics say this won't work and the potential has been hugely overestimated. Wood Mackenzie (18 Nov 2020) estimated that offsetting all the carbon in a year's LNG would require 1.5 bn trees.

At US President Biden's virtual Leaders Summit on Climate in April 2021 with 40 world leaders, a "Net-Zero oil and gas producers forum" was set up. US climate envoy John Kerry admitted "I am told by scientists that 50% of the reductions we have to make to get to net zero are going to come from technologies that we don't yet have. That's just a reality". (BBC Andrew Marr show 16 May)

The oil and gas industry is moving to curb emissions. ExxonMobil, which works to the below 2° target, is spending \$3 bn over the next four years on "low carbon solutions", but has delayed its carbon capture programme. Exxon Mobil sees money-making opportunities in carbon offsets and partnerships with venture funds to finance carbon capture, Chief Executive Officer Darren Woods told a Bloomberg TV interview on 1 April.

Much of the debate is about how real zero net carbon is. Many techno-fixes are proposed and hyped, and turn out not to work. Studies by the IPCC in 2018 suggested the earth could support and extra 900 mn hectares of trees - and area the size of the United States - and they would capture significant carbon. But planting that many trees and managing the forests in a sustainable way would be a complex, huge and expensive undertaking. And the carbon is only stored until the tree is cut down or dies. (BBC 26 May 2020 has a [good summary of the debate](#).) MIT Technology Review (2 Nov 2020) warned that some carbon traders [significantly overstate carbon reductions](#). It cited "real concerns as a growing list of large companies, including Amazon, Microsoft, and even oil and gas giants like Shell, trumpet 'net zero emissions' plans that will rely heavily on nature-based offsets to theoretically cancel out their continuing climate pollution," when the carbon reductions may be seriously overstated.

Three senior climate scientists warned in a 22 April paper that "Current net zero policies will not keep warming to within 1.5°C because they were never intended to. They were and still are driven by a need to protect business as usual, not the climate." They argue that the ["concept of net zero is a dangerous trap."](#)

"In principle there is nothing wrong or dangerous about carbon dioxide removal proposals," they continue. "Carbon removal will be needed to mop up some of the emissions from sectors such as aviation and cement production. ... The problems come when it is assumed that these can be deployed at vast scale. This effectively serves as a blank cheque for the continued burning of fossil fuels ... Policymakers and businesses appear to be entirely serious about deploying highly speculative technologies as a way to land our civilisation at a sustainable destination. In fact, these are no more than fairy tales."

## Methane

Much of LNG's sizable climate impact comes from methane leaks that occur through the "upstream" phase (extraction and domestic pipeline transport), liquification, transport, regasification, and use of the gas in power stations and elsewhere.

In January 2020 the International Energy Agency said "15% of global energy-related greenhouse gas emissions come from the process of getting oil and gas out of the ground and to consumers. Reducing methane leaks to the atmosphere is the single most important and cost-effective way for the industry to bring down these emissions."

Thus the industry is putting a big stress on using drones, sensors and other technology to identify both methane and carbon dioxide leaks and then plugging them. Preventing and plugging methane leaks is the easiest way to cut the greenhouse gas emissions of natural gas, and will go ahead quickly.

## Will the gas go ahead?

Basically the LNG industry is betting that the world will not stop climate change and that warming to 2° will be allowed. Gas will be the main beneficiary of the extra half degree, although Mozambique pays with more and worse cyclones, floods, and droughts.

The change in mood on gas just in recent months shows how uncertain the position is. "Gas is over" says the President of the European Investment Bank. The British Prime Minister has banned funding of foreign fossil fuel projects, including gas. Nevertheless, the gas industry is buoyant and assuming it will be able to keep to the weaker 2° target.

The change is so rapid as to leave questions open. Will COP 26 in Glasgow in November take a stand of fossil fuels including gas, or just ban coal? Will it look again at 2°, or just leave the Paris compromise standing? And will the debate continue at this intensity through 2022?

The dream as presented in 2015 was that Cabo Delgado would produce 100 million tonnes per year (mt/y) of LNG. Now the only sure production is just 3 mt/y from ENI's floating LNG platform, which will go into production in 2022 or 2023. Total was building LNG production capacity for 13 mt/y when it stopped.

In 2023 Total will need to decide what it will do. Total wants to go ahead with gas, so probably would agree to resume if it has its French security zone. ExxonMobil will wait to see what happens, but it has not made major investments and its plans will depend on its judgement of the markets, and if the 2° target remains acceptable. If that happens, Cabo Delgado gas production could rise to perhaps 50mt/y. But if the climate crisis case tightens, ENI could find itself on its own.

# What future for Cabo Delgado gas?

## Part 3 - 1.5° or 2°?

### International Energy Agency says no future for Mozambique gas

Mozambique's gas fields cannot be developed if global warming is to be kept to 1.5° above pre-industrial levels, according to a dramatic International Energy Agency (IEA) report published Tuesday (18 May). The IEA is part of OECD and thus represents establishment, mainstream thinking. So when it says gas is done, that carries significant weight.

The IEA report is entitled *Net Zero by 2050*, and shows what needs to be done to reduce global carbon dioxide (CO<sub>2</sub>) emissions to net zero by 2050, to limit the long-term increase in average global temperatures to 1.5° C, and ensure universal access to electricity and clean cooking by 2030. <https://www.iea.org/reports/net-zero-by-2050>

To do this requires that "beyond projects already committed as of 2021, there are no new oil and gas fields approved for development." Only two Cabo Delgado projects fit within that window - ENI's floating LNG plant (3 million tonnes per year - mt/y - of LNG) and Total's suspended project

(13 mt/y). ExxonMobil has still not committed, and Total has not committed to a larger project, so under IEA scenario they are excluded. In any case, the *Economist* (4 Feb) reports that shareholders are pushing ExxonMobil to go green. This means production of at most 16 mt/y, which is far less than the 100 mt/y being predicted just six years ago.

"The contraction of oil and natural gas production will have far-reaching implications for all the countries and companies that produce these fuels. No new oil and natural gas fields are needed." This will mean a huge cut in projected income for gas-producing countries. "Net zero calls for nothing less than a complete transformation of how we produce, transport and consume energy."

"No new natural gas fields are needed... beyond those already under development. Also not needed are many of the liquefied natural gas (LNG) liquefaction facilities currently under construction or at the planning stage. Between 2020 and 2050, natural gas traded as LNG falls by 60%. ... In the 2030s some [gas] fields may be closed prematurely or shut temporarily."

The AEI report puts forward three scenarios:

+ **Specific policies** that are in place or have been announced by governments. This leads to a global temperature rise of **2.7°**. In 2050 natural gas use is 50% higher than now. (This is approximately the projection of the Gas Exporting Countries Forum.)

+ **All announced pledges** are achieved in full and on time. This leads to a global temperature rise of **2.1°**. Natural gas use expands by 10% to 4 350 bcm (billion cubic metres) in 2025 and remains about that level to 2050. (This is what the gas industry is planning for.)

+ **IEA net zero**. Global temperature rise is held to **1.5°**. Natural gas increases to 4 300 (bcm) in 2025, similar to "all announced pledges", but then drops dramatically to 3 700 bcm in 2030 and to 1 750 bcm in 2050. By 2050, natural gas use is 55% lower than in 2020. (Note that by the 2025 peak, only ENI's floating platform will be producing.) This scenario also includes universal access to electricity and clean cooking by 2030.

## Global 2° compared to 1.5° for Mozambique: Hotter, drier, worse cyclones; south hit hardest

IEA cites extensively a report by the IPCC (Intergovernmental Panel on Climate Change), which is so detailed that it is possible to estimate the difference between global warming of 1.5° and 2° for Mozambique. The 1.5° and 2° are global average increases, and the actual impacts vary significantly across the world, and even within Mozambique.

+ Temperature rise in Mozambique will be more serious at global 2° than global 1.5° of warming. The hottest days and coldest nights will both be hotter. Global 1.5° causes a Mozambique temperature rise, but the increase is much greater at 2°. The number of hot days increases more in the north than in the south.

+ Southern Mozambique will become much drier at 2° with droughts. Water shortages will be more severe at 2° than 1.5°. The number of consecutive dry days increases, particularly in the south.

+ Total rainfall will decrease more at 2° than 1.5° across Mozambique, and will be most serious south of the Zambeze river. However extreme rainfall increases significantly, particularly in northern coastal zones.

+ The number of cyclones may actually decrease, but their intensity increases. Thus flooding caused by heavy rain and intense cyclones will be more serious with 2° warming than with 1.5°.

+ The ocean will get warmer, and sea level will rise - with significant difference between 1.5° and 2°.

+ There is increased risk to mangroves.

+ Moving from 1.5° to 2° of warming reduces maize yield and the suitability of maize as a food crop. Food shortages are predicted, and the risks at 2° are "much larger than the corresponding risks at 1.5°".

This all comes from an extremely detailed comparison of 1.5° and 2° with maps good enough to identify differences within Mozambique in Chapter 3 of the IPCC (Intergovernmental Panel on Climate Change) thick 2018 tome *Global warming of 1.5°C* <https://www.ipcc.ch/sr15/>.

# What future for Cabo Delgado gas?

## Part 4 - Capital versus the G7 on gas

### *But not in the way you might expect*

In an unexpected turn of events, big capital has turned against gas while the G7 leaders backed gas. How this split evolves will be key to whether Total and ExxonMobil agree to go ahead, if peace is restored.

Some of the [world's biggest investors staged a boardroom coup at Exxon Mobil](#), at its annual general meeting last month. Despite fierce opposition by the existing management, they elected three new directors who have long energy experience and "experience in successful and profitable energy industry transformations". Hedge funds target undervalued companies and force change, and they now argue that energy companies will increase their market value by moving more quickly out of fossil fuels.

The rebellion was led by a tiny hedge fund, named Engine No 1 after a San Francisco fire station. It was supported by Black Rock, the world's biggest fund with \$9 trillion under management, and Vanguard, a fund with \$7 trillion under management and ExxonMobil's biggest shareholders.

Engine No 1 founder Chris James told the *Guardian* (4 June) "this debate should not be ideological. We strongly believe that climate risk is business risk. Fossil fuels have big negative impacts." Exxon must be moved to compete in a decarbonizing world. Shell, Chevron and Total have also come under shareholder pressure.

### **G7 leaders say leave it for the children**

But the G7 leaders meeting in Cornwall in the UK on 11-13 June [in their final statement](#) committed to "keep the 1.5°C global warming threshold within reach", thus making clear they were leaving the climate emergency for their children to solve. G7 leaders only agreed to stop backing coal. The *Guardian* (11 June) noted that "while the G7 countries have agreed to stop the international financing of coal, the world's wealthiest nations are pouring billions of dollars into developing gas, another fossil fuel, in the global south at a rate four times that of finance supporting wind or solar projects."

**Comment:** The surprise is that world leaders are taking the short term, let our children sort it out, view, while hedge funds which were notorious for trying for trying to grab quick profits are looking further ahead to the costs of the climate emergency and falling markets for fossil fuels. Big capital is ahead of the world leaders, who by backing energy company bosses now seem out of step. In a year, Total and ExxonMobil will have to assess the terrain and perhaps make a decision on Cabo Delgado.

I recently ran across the 2018 book "[Reckless Opportunists](#)", which asks why politicians and business leaders have become short term and self-serving. Over two decades Prof Aeron Davis has interviewed in depth 350 British business, government, trade union and journalist leaders, and found that "regardless of intent, they lack expertise and vision. They are precarious, toothless and increasingly self-serving. ... Too many are just reckless opportunists making the best of what they have amid the chaos they have helped to create. ... They are highly skilled when it comes to pursuing self interest."

"The way elites are selected, constrained and incentivised everywhere has meant we are producing a generation of self-serving, insecure and less competent leaders. They have the abilities and skill sets need *to become* leaders but not those required *to be* good leaders. They are always on the move and can't afford to invest meaningfully in personal relations or in gaining expert

knowledge," Davis writes. "They succeed by making short-term gains and pushing larger, long-term problems into the future".

That appears as true for the Mozambican president as for the G7 leaders.

Through his interviews with leaders, Davis explores how this happened. A fascinating read.

*Joseph Hanlon*

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**ARTICLES MAY BE FREELY REPRINTED** but please cite the source: "Mozambique News Reports and Clippings".

To cite for academic purposes, treat as a blog or a newspaper. Normal citation format would be: "Mozambique News Reports & Clippings, number XXX", DATE, bit.ly/Mozamb, accessed XXX.

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**\$2bn secret debt trial: Daily press clippings in English (and a few in Portuguese) on** <https://bit.ly/Moz-secret-debt>. The trial is being broadcast live on TV; STV <https://play.stv.co.mz/> (click **Assista aqui**) and TVM <http://online.tvm.co.mz/site/emdirecto/tvm1>

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## **Important external links**

**\$2bn secret debt trial** (Aug-Oct 2021) press reports <https://bit.ly/Moz-secret-debt>

**Exchange rates 2006-21 & minimum wages 1996-2021** <https://bit.ly/Moz-Exch-wage-2021>

**Covid-19** daily updated data <https://www.facebook.com/miguel.de.brito1> and <https://covid19.ins.gov.mz/documentos-em-pdf/boletins-diarios/>

**Daily flood and monthly dry season reports** - <http://bit.ly/Moz-flood21>

**Cyclone trackers**, <https://www.cyclocane.com/> and <https://www.metoc.navy.mil/jtwc/jtwc.html>

**Cabo Ligado** weekly report on civil war <https://www.caboligado.com/>

Previous editions of this newsletter: <http://bit.ly/MozNews2021> and [bit.ly/MozNews2020](http://bit.ly/MozNews2020)

**Downloadable books**: <http://bit.ly/Hanlon-books> Election data: <http://bit.ly/MozEIData>

My Mozambique archive: <http://bit.ly/Mozamb>

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## **Cabo Delgado**

Archive with reports, detailed maps, and census data <https://bit.ly/Moz-CDg>

### **Special reports on the war**

Evolution of the war: global vs local. 27 Feb 2020 <http://bit.ly/CDelgadoOrigins>

Religion is shaping Cabo Delgado civil war. 30 April 2020 <https://bit.ly/CDelgadoReligion>

Intensifying argument over roots of war. 28 June 2020 <https://bit.ly/Moz-492>

Are the drums of war silencing any hope of peace? 26 July 2020 <http://bit.ly/Moz-496>

A history of violence presages the insurgency. 13 August 2020 <http://bit.ly/Moz-498>

Military & economic intervention. 3 Sept 2020 <https://bit.ly/CDelgadoIntervene>

### **Mozambique heroin transit trade**

English - LSE - 2018 - <http://bit.ly/Moz-heroin>

Portuguese - CIP- 2018 - <http://bit.ly/HeroinaPT>

2001 first article- *Metical* - English and Portuguese <https://bit.ly/MozHeroin2001>

### **Gas for development?**

Gas\_for\_development\_or\_just\_for\_money?\_2015 [bit.ly/MozGasEng](http://bit.ly/MozGasEng)

Gás\_para\_desenvolvimento\_ou\_apenas\_dinheiro?\_2015 [bit.ly/MozGasPt](http://bit.ly/MozGasPt)

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## **Background reading**

### **Special reports**

Social protection report - 2017 Mozambique - <http://bit.ly/MozSocPro>

Special report on four poverty surveys: [bit.ly/MozPoverty](http://bit.ly/MozPoverty)

### **\$2bn secret debt - in English**

Secret debt trial (Aug-Oct 2021) press reports <https://bit.ly/Moz-secret-debt>

Kroll - Full report on \$2bn debt - <http://bit.ly/Kroll-Moz>

Kroll report summary - <http://bit.ly/Kroll-sum>

Key points of Mozambique parliament report - Nov 2016 - <http://bit.ly/MozAR-debt-En>  
Following the donor-designed path to Mozambique's \$2.2 bn debt - <http://bit.ly/3WQ-hanlon>

### In Portuguese:

Parliamentary Report on the Secret Debt (complete) [bit.ly/MozAR-debt](http://bit.ly/MozAR-debt)  
**2018 Constitution** - <http://bit.ly/2KF588T>

**Election study collaboration:** We have detailed election data from 1999 through 2014 and are inviting scholars to use this data collaboratively. <http://bit.ly/MozEIData>  
Election newsletters are on <http://bit.ly/2H066Kg>

**Nine books by Joseph Hanlon can be downloaded, free:** <http://bit.ly/Hanlon-books>

Bangladesh confronts climate change (2016)  
Chickens and beer: A recipe for agricultural growth in Mozambique (2014) is on <https://bit.ly/Chickens-Beer>  
Há Mais Bicicletas – mas há desenvolvimento? (2008)  
Moçambique e as grandes cheias de 2000 (2001)  
Mozambique and the Great Flood of 2000 (2001)  
Paz Sem Benefício: Como o FMI Bloqueia a Reconstrução (1997)  
Peace Without Profit: How the IMF Blocks Rebuilding (1996)  
Mozambique: Who Calls the Shots (1991)  
Mozambique: The Revolution Under Fire (1984)  
Apartheid's 2nd Front (1986) <available shortly>

### These are still available for sale:

Galinhas e cerveja: uma receita para o crescimento (2014) (free in English)  
Zimbabwe takes back its land (2013)  
Just Give Money to the Poor: The Development Revolution from the Global South (2010)  
Do bicycles equal development in Mozambique? (2008) (free in Portuguese)  
Beggars Your Neighbours: Apartheid Power in Southern Africa (1986)

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### Mozambique media websites, English:

Club of Mozambique (free): <http://clubofmozambique.com/>  
Zitamar (paywall): <http://zitamar.com/>

### Mozambique media websites, Portuguese (all with partial paywall):

Notícias: [www.jornalnoticias.co.mz](http://www.jornalnoticias.co.mz)  
O País: [www.opais.co.mz](http://www.opais.co.mz)  
@Verdade: <http://www.verdade.co.mz>  
Carta de Moçambique <https://cartamz.com>

### Mozambique think tanks and pressure groups, Portuguese:

Centro de Integridade Pública: CIP <https://cipmoz.org/>  
Observatório do Meio Rural: OMR <https://omrmz.org/>  
Instituto de Estudos Sociais e Económicos: IESE <https://www.iese.ac.mz/>  
Centro Para Democracia e Desenvolvimento CDD <https://cddmoz.org/> (some CDD in English)  
Also CDD now controls Fórum de Monitoria do Orçamento - FMO (main debt group) <http://www.fmo.org.mz>  
and RMDDH - Rede Moçambicana dos Defensores dos Direitos Humanos (a human rights group).  
To subscribe to all CDD publications: <http://eepurl.com/gO9l6v> (English or Portuguese).

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