TOTALENERGIES:

Is it really diversifying its energy production?

RECLAIM Finance

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INTRODUCTION

In May 2021, Total became TotalEnergies, a "multi-energy company" with the ambition of being a major player in the energy transition.[1] At least, this is what its CEO Patrick Pouyanné is trying to convince people of by positioning TotalEnergies as a responsible and socially acceptable partner, customer and employer, even in the context of the climate emergency. In financial terms, having people believe that TotalEnergies is diversifying makes it possible for the company to respond to financial players who want their support to fulfill their commitment to achieving net zero by 2050 on a 1.5°C trajectory.

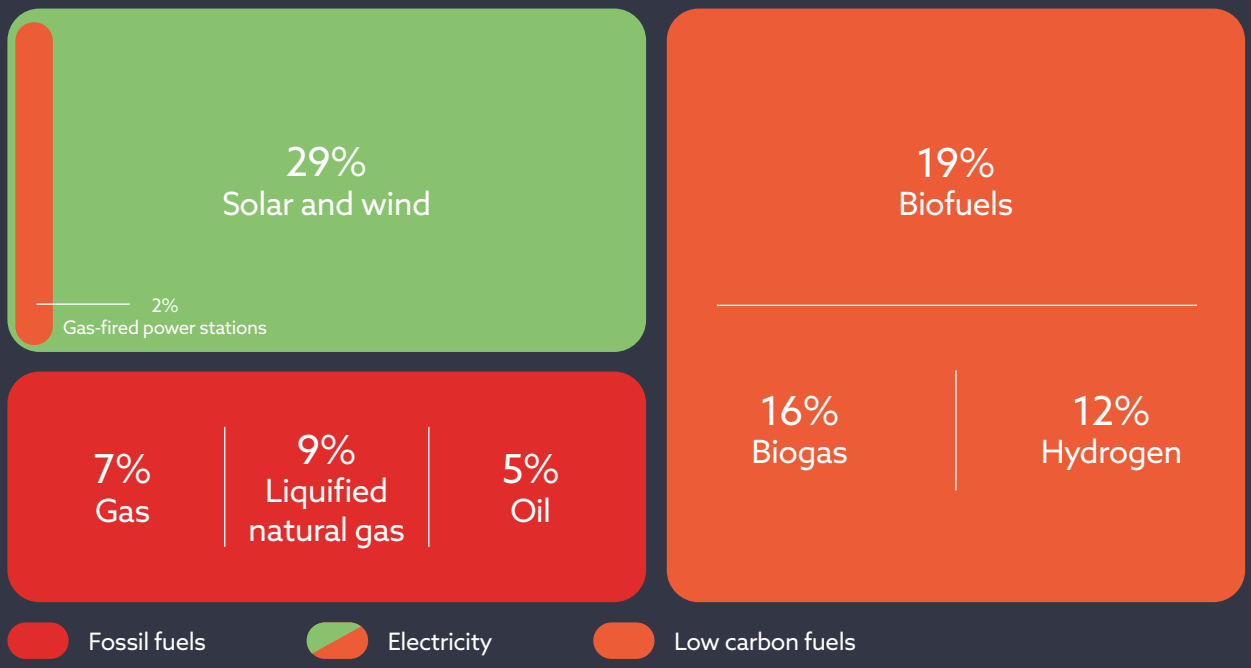
But what does that really mean? What are these "new energy sources" it talks so much about? Do these new sources of energy offer real solutions in terms of climate change, and do they really represent a growing and significant part of TotalEnergies' energy mix? Reclaim Finance asked these questions to help inform the company's financial stakeholders – its banks, insurers and investors, including its shareholders – and to provide fact-based recommendations on how to meet their own climate commitments.

Energy is life. We all need it, and it's a source of progress. So today, to contribute to the sustainable development of the planet facing the climate challenge, we are moving forward, together, towards new energies. Energy is reinventing itself, and this energy journey is ours. Our ambition is to be a world-class player in the energy transition. That is why Total is transforming and becoming TotalEnergies.

Patrick Pouyanné, Chairman and CEO of TotalEnergies, May 2021.[2]

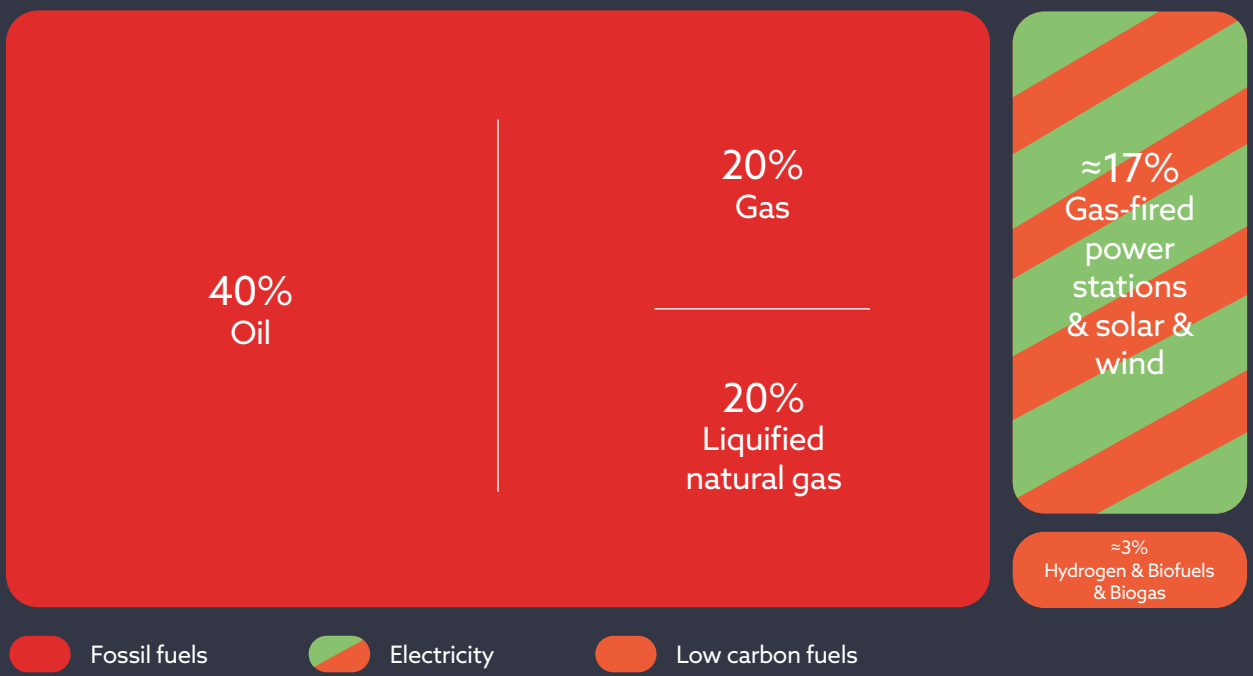
TotalEnergies: words without actions

Energy types in TotalEnergies' external communication



Share of each energy type in TotalEnergies' communications on the energy sector, based on the 50 most recent tweets on Twitter (X) in the last 3 months and the last 50 posts on Instagram in the last 12 months.

TotalEnergies 2030 energy mix



Share of each energy source in TotalEnergies' energy mix by 2030. These figures are estimates. TotalEnergies does not indicate the share of gas, solar and wind power for electricity production, or the share of hydrogen, biogas and biofuels in its low carbon fuels.

2. DIVERSIFICATION WITH A FOCUS ON OIL AND GAS

TotalEnergies is a company built on oil and gas extraction. Responding to the climate challenge means that TotalEnergies is undergoing its own Copernican revolution so as to drastically and rapidly reduce its oil and gas-dependent activities and the associated emissions.

Our analysis shows that TotalEnergies is diversifying away from hydrocarbon production. However, hydrocarbon production is not decreasing in absolute terms, and what is more, the activities being developed by TotalEnergies outside the extractive sector will actually perpetuate its dependence on oil and gas. For example, the production of plastics, which are made from oil, will remain a small but growing part of TotalEnergies' business over the next few years.[3] And among the sources of energy promoted, TotalEnergies' appetite for gas, a fossil fuel, is particularly apparent.

In fact, the press release issued by the major in 2021 following the AGM vote in favour of changing its name presents five types of energy other than oil and gas: electricity, hydrogen, biomass, solar and wind power. These activities currently account for 5% of the energy mix produced by TotalEnergies, with plans for this to increase to 20% by 2030.

TotalEnergies presents these five types as "new energies" that will help respond to the climate emergency, but our analysis shows that their contribution to reducing emissions is far more questionable, if not misleading.[4] Not only is TotalEnergies engaging in high-level greenwashing by promoting sustainable aviation fuels as a climate solution,[5] it is also relying on gas, a fossil fuel, for part of its electricity and hydrogen production. Additionally, TotalEnergies' communications on its solar and wind energy activities and objectives overstate the company's real contribution to the development of these sources.

a. 1. Ever more oil and gas produced

According to the International Energy Agency's (IEA) Net Zero Emissions by 2050 Scenario (NZE), oil and gas should account for less than 20% of global energy production in 2050, compared with the 80% it represents today. The decline must begin immediately so that oil and gas represent less than half of the energy mix by 2030. This is not the programme being pursued by TotalEnergies. In 2030, oil and gas will still account for 80% of its energy mix, compared with 95% in 2021.

What's more, "diversification" does not mean "reduction" for TotalEnergies. In fact, far from forecasting a fall in its hydrocarbon production in line with the IEA's NZE Scenario projections of a 22% and 23% drop in oil and gas production by 2030, TotalEnergies intends to increase both its oil and gas production by 2 to 3% by 2030.[6] In other words, despite a decline in the relative share of oil and gas in its activities, TotalEnergies came back on its commitment to maintain its oil production and announced it will produce more oil and gas in 2028 than today, a situation that runs counter to the urgent need to reduce greenhouse gas emissions and curb global warming.

b. Hydrogen: gas still in the picture

Although TotalEnergies talks a lot about hydrogen, it plans to produce just 1 million tonnes per year by 2030 of hydrogen and

e-fuel, a synthetic liquid fuel produced from hydrogen and CO2. This is an extremely low target compared with the 136 million tonnes per year in 2030 indicated in the IEA's NZE Scenario.[7] Furthermore, the term «clean hydrogen» used by TotalEnergies conceals the inclusion of blue hydrogen produced from fossil gas[8] alongside green hydrogen, which is produced by electrolysis using renewables – TotalEnergies is careful not to divulge any figures on the respective share of the two types of hydrogen.

c. More and more gas-fired power stations

Gas currently dominates TotalEnergies' electricity production, with 22.8 TWh of output, representing 69% of electricity produced, compared with 10.4 TWh from wind and solar power, or 31% of electricity produced.

In 2030, TotalEnergies plans to produce three to four times as much electricity as in 2022: more than 100 TWh. The company plans to doble its electricity production coming from gas-fired power plant between 2023 and 2030.[9] Gas will then represent a bit less than a third of its electricity production. A limited proportion of no more than 20% of this electricity will come from biogas.[10]

Indeed, TotalEnergies has not undertaken to stop developing new gas-fired power stations, and it launched a new gas-fired power plant in Landivisiau in 2022. These new gas plants threaten our ability to align with the projected decarbonisation of the electricity mix by 2035 in developed countries and by 2040 worldwide.

d. Acquired, not new renewables

TotalEnergies highlights its renewable energy capacity target of 100 GW by 2030. But this is a gross capacity target that includes projects in which TotalEnergies is a minority stakeholder alongside other companies. Net installed renewable capacity – that is, capacity in proportion to the share held by the company – is projected to fall to 66 GW by 2030.[11]

Beyond this 66 GW figure, TotalEnergies' real contribution to reducing emissions and increasing investment in renewable energies must be assessed by taking into account two factors: what comes from acquisitions and what comes from building new capacity. Indeed, the increase in TotalEnergies' wind and solar capacity cannot count as additional capacity in the real world if the increase is the result of acquiring existing projects, and not the result of developing new capacity.

Analysis of TotalEnergies' major purchases[12] of renewable energy capacity over the last three years shows that the acquisition of existing capacity is more prominent than the development of new capacity.[13] From the beginning of 2020 until the end of 2022, TotalEnergies increased its gross installed renewable energy capacity by 13.8 GW, from 3 GW to 16.8 GW. During this period, the company acquired 11.7 GW through the acquisition of 50% of ClearWay in the United States in 2022 (4 GW), 20% of Adani Green in 2021 (3 GW), 50% of Adani Green's solar assets in 2020 (2.3 GW), and two other assets.

2. MORE LIQUEFIED NATURAL GAS, MORE GREENWASHING

TotalEnergies' contribution to the energy transition and the use of renewables dominate TotalEnergies' communications to individual customers, particularly via social networks. But in reality it is a fossil fuel that is playing an increasingly central role in the company's activities: liquefied natural gas (LNG). TTotalEnergies intends to increase its equity production and offloading of LNG by 50% between 2023 and 2030.[17]

As its name suggests, liquefied natural gas is a type of gas that is transformed to a liquid to make it easier to transport by ship over long distances, as opposed to by pipeline. Far from representing a real diversification of TotalEnergies' activities away from its traditional hydrocarbon production and transport, this is simply a new way of transporting gas.

By 2022, TotalEnergies was transporting around two-thirds of its gas production by pipeline, and almost a third in liquefied form. Indeed, TotalEnergies became the world's third-largest player in the LNG market that year, with 17 million tonnes of liquefaction capacity,. Yet it has no intention of stopping there. On the contrary, it plans to transport up to half of its gas production in liquefied form by 2030, a way of overcoming distances, gaining flexibility and generating significant operational benefits. In 2022, the LNG business already accounted for 19% of the oil and gas major's operating income.

a. LNG produces more emissions than pipelines

As a fossil fuel, LNG contains over 90% methane, a greenhouse gas (GHG) more than 82.5 times more potent than carbon dioxide over 20 years. According to the Intergovernmental Panel on Climate Change (IPCC), any new gas project that emits greenhouse gases poses additional risks to our ability to meet the target of limiting global warming to 1.5°C. This is particularly the case for LNG terminals.

+50%

Between 2023 and 2030, TotalEnergies intends to increase its LNG production and offtake by 50%

Transporting gas over large distances by ship, and setting up a purification and liquefaction process, followed by a regasification process, all massively increase the final emissions linked to the use of gas. A study by Rystad Energy estimates that a barrel of oil equivalent of LNG imported into Europe emits more than 70 kilograms of carbon, compared with 7 kilograms for a barrel of oil equivalent of Norwegian gas transported by pipeline.[17] The liquefaction of gas and its transport are high in emissions: a study by Oil Change International estimates that between 6% and 10% of the gas transformed is used for the liquefaction process.[18] A Carbone 4 study of gas consumed in France estimates that the stages involved in processing and transporting gas in liquid form are "almost twice as energy-intensive and therefore more than twice as high in emissions as transporting by international pipeline".[19]

Moreover, while the IEA's NZE Scenario projects a 75% reduction in methane emissions by 2030 compared to 2020,[20] the complexity and length of LNG supply chains increase the risks of leakage of this powerful greenhouse gas. This is particularly worrying given that it only takes 0.2% of leaks to make gas emissions higher than coal.[21]

b. New terminals are incompatible with a 1.5°C trajectory

All these figures partly explain the IEA's projection of a halt to the development of new LNG terminals by the end of 2022 in its NZE Scenario. It should be noted that the deployment of new terminals is often linked to the opening of new gas fields, which is also at odds with the projected halt to the development of these projects beyond 1 January 2022 in the NZE Scenario.

Despite this, TotalEnergies is planning to build 13 new liquefaction terminals, two of which it will operate (Papua LNG and Mozambique LNG[22]). Together, these projects represent 87 million gross tonnes per year of liquefaction capacity. Emissions from the

liquefaction terminals are estimated at 355 million tonnes of CO2 equivalent (CO2e) per year.[23] These emissions will be added to those of the 26 TotalEnergies LNG terminals already in operation, which are responsible for more than 258 million tonnes of CO2e per year.

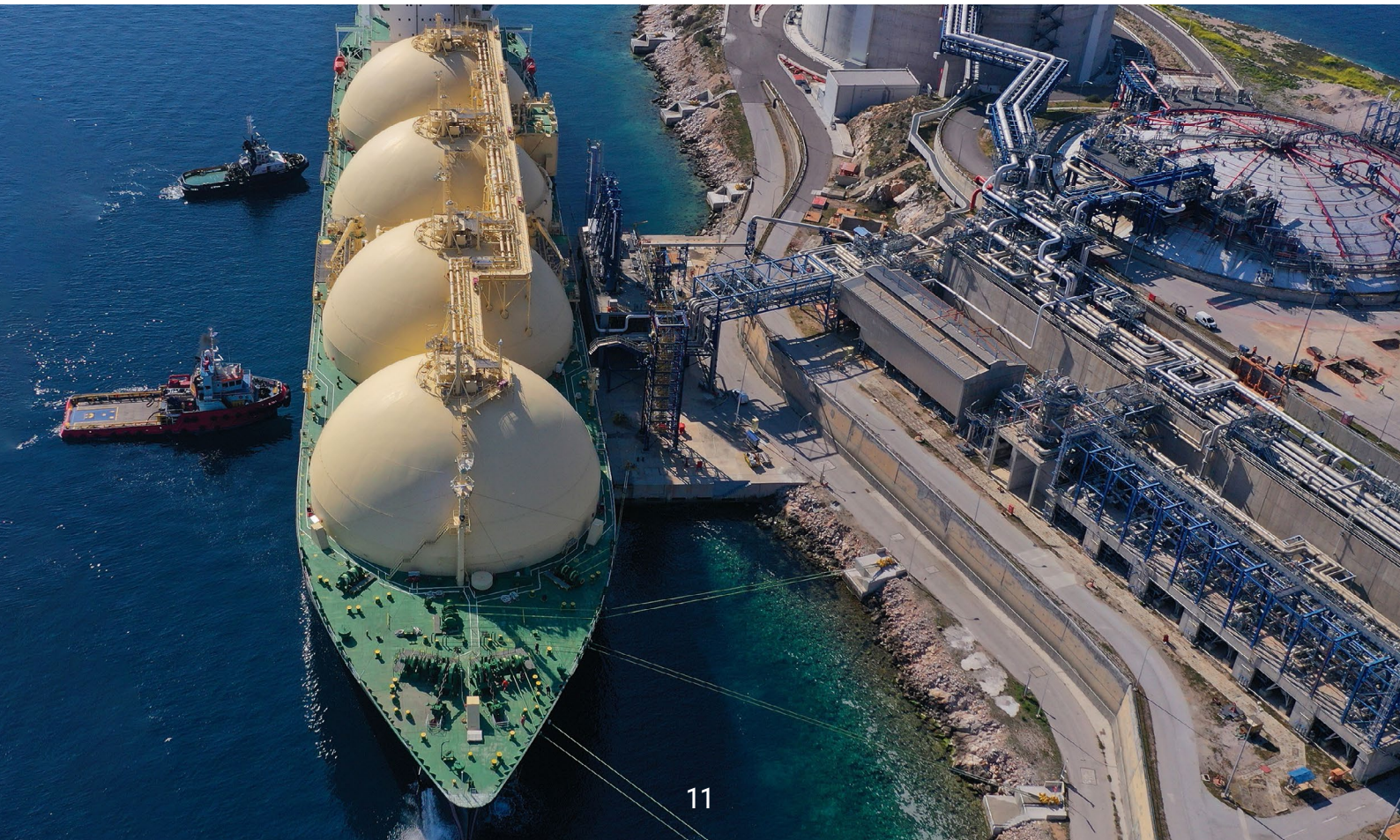
TotalEnergies also owns three regasification terminals and is developing three new ones, including Le Havre FSRU which it operates.

c. Net-zero LNG: TotalEnergies' latest greenwashing gimmick

Far from portraying LNG as a fossil fuel, TotalEnergies tends to link it with the energy transition, its energy diversification and its desire to reduce its emissions. In its *Sustainability and Climate 2023 Progress Report* alone, TotalEnergies mentions LNG 35 times, linking it to the transition or to reducing its emissions in 63% of cases.[24]

For its Cameron LNG, Papua LNG and Ichthys LNG assets, TotalEnergies emphasises the possibility of equipping them with a carbon capture and storage (CCS) mechanism, which, along with offsetting, would contribute to the sale of supposedly carbon-neutral LNG cargoes.[25]

These mechanisms, the development of which remains uncertain, would not be able to offset all the emissions linked to the construction of new projects that are inherently designed to extend the use of gas and are linked downstream with new gas fields. The liquefaction process accounts for 6-7% of total gas emissions, meaning the installation of CCS on an LNG facility would only offset a fraction of the associated emissions. The US NGO Sierra Club estimates that the CCS project for Rio Grande LNG, a shale gas export terminal in southern Texas partly owned by TotalEnergies, would only capture around 3% of the project's lifecycle emissions. Furthermore, these technologies not only add to the project's energy bill but also use large quantities of water. The Rio Grande LNG facility uses more than 60% additional water with CCS than would be used without carbon capture, representing an additional 10 million litres per month.



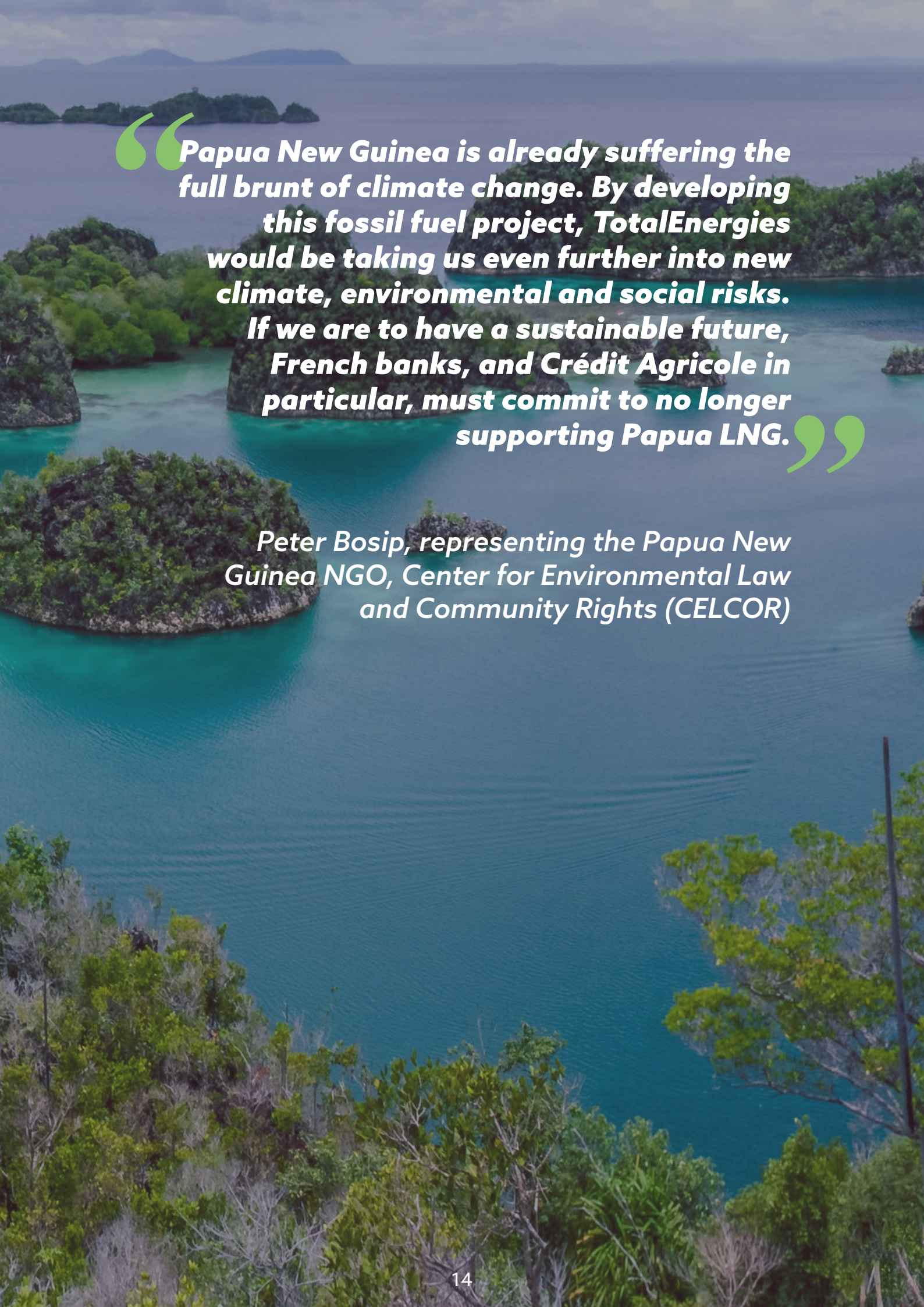

Toute une banque pour vous

3. PAPUA LNG: A NEW CLIMATE BOMB

Some of the projects that TotalEnergies is seeking to develop would considerably worsen CO2 emissions in countries that have the capacity to rapidly develop genuine renewables. In Papua New Guinea, for example, the Papua LNG project, for which TotalEnergies hopes to announce a final investment decision in early 2024, would increase emissions from the country's industrial and energy sector by 7%. The project comprises 9 production wells in the Gulf Province, a 320 km onshore and offshore pipeline, and 4 electric liquefaction trains. It would emit more than 220 million tonnes of scope 3 emissions,[26] equivalent to the annual emissions of the whole of Bangladesh and its 169 million inhabitants. Yet another model is possible for Papua New Guinea, where the renewable energy projects currently considered viable by the government could supply 78% of the country's electricity needs by 2030, for an investment 100 times smaller.[27]

In a country where climate change and rising sea levels have already led to the forced relocation of entire villages, and could rapidly lead to the relocation of tens of thousands of people,[28] the Papua LNG project poses the significant risk of human rights violations for the 12,700 people living in the 39 villages in the project area of influence. The country's first LNG facility, PNG LNG, whose lead investor, ExxonMobil, has a serious record of human rights abuses, including abuses carried out by private security forces,[29] failure to respect the Free, Prior and Informed Consent of the communities affected by the project,[30] and land disputes and intra-community violence.[31]. ExxonMobil is TotalEnergies' main partner for Papua LNG. The lack of transparency regarding the development of the *Papua LNG* project and the way in which local communities have been consulted has provoked fears that their rights will not be any better protected. Police travelled with consultants in charge of assessing human rights impacts[32] and the information provided about the project remains very patchy, despite repeated requests from civil society.[33]

Crédit Agricole, TotalEnergies' leading global banker, which has provided $9.5 billion in financing for the oil and gas major between 2016 and 2022, has decided to actively support the project. Under the terms of a financial advisory mandate, the bank, which claims to be green, is responsible for helping TotalEnergies to build its business case with a view to securing the financing it needs to get off the ground. This support once again illustrates that promises, such as that made by Crédit Agricole in April 2021 to help deliver net zero by 2050 on a 1.5°C trajectory, are only binding to those who choose to believe them.



"Papua New Guinea is already suffering the full brunt of climate change. By developing this fossil fuel project, TotalEnergies would be taking us even further into new climate, environmental and social risks. If we are to have a sustainable future, French banks, and Crédit Agricole in particular, must commit to no longer supporting Papua LNG."

Peter Bosip, representing the Papua New Guinea NGO, Center for Environmental Law and Community Rights (CELCOR)

RECOMMENDATIONS FOR TOTALENERGIES' FINANCIAL PLAYERS

It is because of the role TotalEnergies claims to play in the energy transition and its so-called "diversification" that many banks and financial players still justify their support for the oil and gas major. This is particularly true of the four major French banks BNP Paribas, Société Générale, Crédit Agricole and BPCE/Natixis, which between them account for 43% of the financing received by TotalEnergies since 2016. For instance, during the 2023 AGM season, Jean-Laurent Bonnafé, CEO of BNP Paribas, justified the bank's support for TotalEnergies in the name of its role in the transition, while Philippe Brassac, CEO of Crédit Agricole, said he wanted to support its development of renewable energy supplies.

Our analysis shows the profound limitations of these two arguments. Unless they impose conditions on their support, financial players cannot reconcile their climate commitments with maintaining financing and providing other financial services to TotalEnergies.

The 20 largest banks financing TotalEnergies – which account for 97% of the $55 billion in financing granted to the company between 2016 and 2022 – have all committed to help limit global warming to 1.5°C and to align their portfolios with the objective of achieving net zero by 2050. This is also the case for 12 of TotalEnergies' 20 biggest investors, including BlackRock, the Norwegian sovereign wealth fund, DWS and, above all, Amundi – the biggest investor. The credibility of their promises requires the adoption of the following measures:

- An end to all direct support for new TotalEnergies oil and gas production and transport projects.
- The suspension of all non-earmarked support until TotalEnergies stops developing new oil and gas production and transport projects, and until it stops allocating the majority of its capital expenditure to oil and gas without including targets for reducing its hydrocarbon production by 2030 in line with a 1.5°C trajectory with little or no overshoot and limited use of negative emission technologies.

References

1. TotalEnergies, Total is Transforming and Becoming TotalEnergies, 28 May 2021.
2. Ibid.
3. The above figures relate only to the energy mix produced by TotalEnergies; that is, the dominant activities of the French major. Outside the energy sector, TotalEnergies is developing its activity in petrochemicals and plastics production, an activity that its CEO believes creates value and can ensure that the oil industry has "*a bright future ahead of it*". TotalEnergies plans to more than double its polymer production to 10 million tonnes a year by 2050, which requires the extraction of oil. In its net zero strategy, TotalEnergies states that it expects to use 200,000 to 300,000 barrels of oil per day in 2050, mainly for plastics production.
4. Neither electricity nor hydrogen are primary energy sources.
5. TotalEnergies also plans to develop sustainable aviation fuels (SAF), which are virtually non-existent in the company's production today, and which should reach 1.5 million tonnes per year by 2030 – equivalent to 10% of the world's production of this biofuel. The consequences for land use and emissions are not negligible, requiring 0.4 million hectares of land (estimate based on land use in the United States according to the research article 'Sustainable land use and viability of biojet fuels', Nature, 2023) – twice the size of Corsica – the development of biomass in aviation goes hand in hand with the destruction of nature, loss of biodiversity and food shortages. HEÑÓI, 'Producing fuel for people's planes', 2022.
6. Although TotalEnergies has so far made no commitment to leave Russia, this figure excludes its production there.
7. IEA, Global Hydrogen Review 2021, page 7.
8. In particular, TotalEnergies includes in "clean hydrogen" produced from natural gas using the steam reforming process combined with a CO2 capture and storage process with a carbon footprint of less than 36.4 g CO2/MJ.
9. TotalEnergies, 2023 Strategy and Outlook, 2023.
10. This will be used partly to generate electricity, but also for other purposes, such as heating. In absolute terms, TotalEnergies' biogas production is set to increase forty-fold, from 0.5 TWh in 2022 to 20 TWh in 2030, an increase that depends on large-scale waste production, which can only be achieved by maintaining intensive agriculture. Transport & Environment, Is renewable gas another biofuels disaster waiting to happen?, 2019.
11. Projection by Reclaim Finance based on TotalEnergies' net installed capacity, capacity under construction and capacity under development (45.5 GW) and gross capacity (69 GW) at the end of 2022 according to the Universal Registration Document 2022. It should be noted that wind and solar power would represent less than 16% of the energy mix produced in 2030. While this target is potentially close to the projections made by the IEA in its NZE Scenario, it assumes that Russia will actually withdraw.
12. TotalEnergies only provides exhaustive data on significant acquisitions. The lack of precise data on smaller transactions and disposals makes it impossible to identify the exact amount of additional capacity developed by TotalEnergies.
13. In 2022, TotalEnergies launched two renewable energy projects, owning 49% and 51% respectively – Al Kharsaah in Qatar and Seagreen in the UK – increasing gross capacity by almost 2 GW.
14. TotalEnergies acquired 20% of Adani Green Energy Ltd (AGEL) which had 3 GW in operation in the first quarter of 2021 and acquired SB Energy in the second quarter of 2021, which has 1.7 GW of installed capacity. Total, *Total to Acquire from Adani a 20% Interest in the Largest Solar Developer in the World*, 2021; TotalEnergies, *India: Adani Green Energy completes the acquisition of the 5 GW renewable portfolio of SB Energy India*, 2021.
15. Total, India: Total strengthens its partnership with Adani in renewable energies, 2020.
16. TotalEnergies acquired 0.7 GW of gross installed capacity in 2022 through the acquisition of Casa dos Ventos in Brazil, and 1.7 GW through AGEL's acquisition of SB Energy.
17. TotalEnergies, 2023 Strategy and Outlook, 2023.
18. Rystad Energy, *From Well to Atmosphere: Navigating emissions in the oil and gas value chain*, 2023.
19. Oil Change International, Burning the gas 'bridge fuel' myth: Why gas is not clean, cheap, or necessary, 2019.
20. Carbone 4, Natural gas imports: not all vintages are created equal, 2021.

21. IEA, Methane abatement, Global Methane tracker, 2023.
22. Environmental letter, 'Evaluating net life-cycle greenhouse gas emissions intensities from gas and coal at varying methane leakage rates', 2023.
23. The Group's projects include Mozambique LNG and Papua LNG, which have liquefaction capacities of 18 million tonnes per year respectively, and are responsible for the emission of 71 and 31 million tonnes of CO2e per year respectively, or together more than a fifth of the emissions from TotalEnergies' liquefaction terminal projects.
24. Calculated using the KING metric, integrating direct emissions and those linked to LNG transport, as well as taking into account methane leaks upstream of the liquefaction process in the case of US terminals (Science, Assessment of methane emissions from the U.S. oil and gas supply chain, 2018).
25. When LNG is not associated with transition or lower emissions, it is linked to human rights in almost a third of cases.
26. For example, Total has announced carbon-neutral LNG deliveries from its Ichthys terminal in 2020.
27. IEEFA, 'Papua LNG Project - Financiers taking the risk', May 2023.
28. While the cost of the Papua LNG project varies according to the figures put forward by TotalEnergies (between 10 and 13 billion dollars), the cost of the projects being studied by the Papua New Guinea government at the beginning of 2023 is 110 million dollars, which would make it possible to cover 78% of the country's electricity needs by 2030 with renewable energies, while extending access for the country's households from 13% today to 70% in 2030. See Jubilee Australia, '*Building on What Works*', January 2023.
29. Ibid.
30. See Jubilee Australia Research Network, On Shaky Ground, 2018, et The Nation, ExxonMobil's New Guinea Nightmare, 2014
31. ChildFund Australia, Jubilee Australia, Melanesian Institute, National Centre for Peace and Conflict Studies, Oxfam Highlands Programme, PNG Church Partnership Program The community good - Examining the Influence of the PNG LNG Project in the Hela Region of Papua New Guinea, 2012
32. Voir Jubilee Australia Research Network Pipe Dreams : the PNG LNG Project and the Future Hopes of a Nation, Décembre 2012 ; et Colin Filer, Development Policy Centre, Crawford School of Public Policy, Australian National University Methods in the madness: The 'landowner problem' in the PNG LNG project, 2019
33. The Danish Institute for Human Rights, 'Papua LNG Human Rights Impact Assessment, Focus on Gender, Security and Conflict', January 2019.
34. Centre for Environmental Law and Community Rights, PNG needs climate justice and sustainable development : not fossil fuels, 2023

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Reclaim Finance is an NGO affiliated with Friends of the Earth France. It was founded in 2020 and is 100% dedicated to issues linking finance with social and climate justice. In the context of the climate emergency and biodiversity losses, one of Reclaim Finance's priorities is to accelerate the decarbonization of financial flows. Reclaim Finance exposes the climate impacts of some financial actors, denounces the most harmful practices and puts its expertise at the service of public authorities and financial stakeholders who desire to to bend existing practices to ecological imperatives.

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