



THE ITALIAN CLIMATE CHANGE THINK TANK

ENERGY IN AFRICA: WHAT RELATIONS BETWEEN ITALY AND ANGOLA?

POLICY BRIEFING
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EXECUTIVE SUMMARY

The [Mattei Plan](#), Italy's new strategy for the African continent presented in January 2024 at the [Italy-Africa Summit](#), confirms Italy's renewed focus on the African continent. In the aftermath of Russia's invasion of Ukraine, the government turned to numerous African partners in order to diversify its gas supplies, which at that time were mainly coming from Russia.

Italy's diplomatic activism concerning Africa also involved **Angola**. The visit to Rome by João Manuel Gonçalves Lourenço, President of Angola, in May 2023, was the first by an Angolan leader since the country's independence, and it followed the mission to Angola that Luigi di Maio, at that time Minister of Foreign Affairs and International Cooperation, and Roberto Cingolani, then Minister of Ecological Transition, performed in April 2022. Also in the presence of Eni's CEO Claudio Descalzi, Rome and Luanda agreed to [increase](#) gas supplies by 1.5 billion cubic metres per year, considered of key importance for breaking away from Russian gas. **Italian-Angolan relations are primarily involved in economics and trade, driven by the oil & gas sector.** To date, **Angola is amongst the top ten suppliers of oil to Italy, as well as a supplier of liquefied natural gas (LNG).** Although it is the second-largest oil producer in Africa and an emerging gas producer, Angola has seen a decrease in hydrocarbon production, over the last 7 years for oil, and for almost the last 5 years for natural gas.

The example of Angola clearly shows that setting up a partnership based on the use of fossil fuels, particularly oil in this case, has not benefited the country's all-round development in any way, and on the contrary it has fostered a vicious circle of indebtedness, poverty and inequality. The analysis shows that, given the country's high degree of dependence on the production and sale of hydrocarbons, the national economy is extremely vulnerable to the volatility of crude oil prices. Likewise, relying on an emerging gas industry involves numerous risks: investing in the development and consolidation of the gas sector means facing *stranded capital*, in other words, the impossibility of recovering investments as they are no longer profitable due to a collapse in prices and demand. As a result, **if Angola does not adopt any measures to diversify its economy, its gross domestic product (GDP) could shrink by up to 6% by 2050.**

Angola should therefore embark on a path of political and institutional reforms, which would give it access to new climate finance and diversification of the national economic system by leveraging non-oil sectors such as renewable energy, sustainable agriculture, critical mineral industry, fisheries and eco-tourism. These sectors, as they are highly vulnerable to the impact of climate change, should be supported by policies connected to adaptation, as **achieving climate resilience is inseparably linked to the success of Angola's economic diversification.**

Therefore, the Mattei Plan for the development of the African continent offers an opportunity to redefine a new partnership with Angola. However, **a partnership based on the exploitation of fossil fuels is not only not economically viable in view of a declining Italian and European demand for oil and gas according to all scenarios, but it is also on a collision course with market trends** (this is particularly marked in the decarbonisation scenario aligned with 1.5°), considering Italy's commitments regarding climate and its national foreign policy objectives, which aim to promote stability on the African continent.

In the name of innovation that should hallmark the Mattei Plan, a new partnership between Italy and Angola should instead focus on a concrete commitment by the Italian government with respect to the following factors:

- **Commit to stop promoting new gas and oil exploration and development projects, both through a clear political direction and via public finance**, in order to avoid the risk of *stranded capital*, namely investments that are no longer profitable.
- **Redirect public finance instruments such as SACE guarantees and the Italian Climate Fund (FIC) to support non-oil and emerging sectors** such as critical minerals and renewable energy projects, sustainable agriculture, fisheries and eco-tourism. These are sectors that have an unexploited potential. The Angolan government has declared its intention to develop them in order to attain the country's true economic diversification, something that is now unavoidable and urgent, and whose implementation also corresponds to the objectives of the Mattei Plan, which aims to foster the economic development of African countries in order to promote stability on the continent.
- **Anchor a renewed Italian focus on Angola within the framework of the Mattei Plan, to the EU's broader strategy of cooperation with Angola**, by means of instruments and operations such as the Sustainable Investment Facilitation Agreement (SIFA) and the Global Gateway Initiative.
- **Support the adoption of adaptation policies in the country that can systematically address losses and damage in the territory.** More in general, climate change adaptation policies should be part of a broader framework within a long-term strategy, something that today is lacking, that can define the country's commitments, in terms of policies and targets, towards the achievement of the Paris Agreement goals. More specifically, the link between climate and food security should be taken into account, as expressed to Italian Prime Minister Meloni at COP28.
- **Activate and strengthen forms of economic and industrial diplomacy to identify zero-emission projects** that can mobilise private finance and underpin long-term planning operations, including support for innovation and capacity building along the value chain.

- **Finally, Italy should provide active support for the Angolan government in identifying a model for the transition of the tax system,** together with Europe, UN institutions and Multilateral Development Banks.

1 ANGOLA IN THE FRAMEWORK OF ITALY'S STRATEGY FOR AFRICA

The visit to Rome in May 2023 by João Manuel Gonçalves Lourenço, President of Angola, in the presence of Italian Prime Minister Giorgia Meloni and President of the Republic Sergio Mattarella, was the first by an Angolan leader after the country's independence, obtained in 1975. This visit followed a previous mission to Angola in April 2022 by Luigi di Maio, at that time Minister of Foreign Affairs and International Cooperation, Roberto Cingolani, then Minister of Ecological Transition, accompanied by Eni CEO Claudio Descalzi, as part of the energy diversification strategy launched in the aftermath of the invasion of Ukraine by Russia, which was then Italy's main supplier of gas. A “scramble for gas” that took on a specifically African dimension, with government representatives signing new agreements not only with Angola but also with Algeria, Egypt, Libya, [Mozambique](#) and [Congo](#). The visit contributed to confirming the growing trade exchanges between the two countries, particularly in the field of energy.

Italy's diplomatic commitment to Africa, which began with the Draghi government, then continued under the executive led by Giorgia Meloni, whose ambition to relaunch Italian-African relations and make Rome a primary partner for Africa was translated into the Mattei Plan, the *flagship initiative* for the development of the African continent, presented during the Italy-Africa Summit at the end of January 2024.

The interests at stake in defining the Mattei Plan can be traced back to the commitment to promote growth and development of the African continent as an antidote to the root causes of migration, in coherence with the Rome procedure launched in July 2023. The focus on growth and development for the African continent also has important implications for Italy from an economic and climate perspective, areas in which energy undoubtedly plays a central role. In fact, the current diplomatic and financial paradigm between Italy and African countries was intended to favour the traditional objective of access to fossil fuels - a dimension that has acquired far greater significance in the light of the energy crisis caused by Russia's invasion of Ukraine. Represented by José de Lima Massano, Minister of State for Economic Coordination, Angola was one of the 46 African countries that took part in the Italy-Africa Summit.

2 BILATERAL RELATIONS BETWEEN ROME AND LUANDA

The first bilateral diplomatic relations between Italy and Angola date back to 1976. Italy was the first western country to [officially recognise](#) the newly-proclaimed Republic of Angola, where the humanitarian and evangelising work of missionaries, as well as the presence of a solid Italian community, was already significant even before independence. Alongside countless development cooperation initiatives, the role of

small Italian entrepreneurs, NGOs and Italian universities continued, even during the civil war that ended in 2002.

The [overall bilateral trade figures](#) confirm a growing significance in the trade sector since 2022, when exchanges reached 1.7 billion euro, of which 1.5 billion euro was represented by the import of fossil fuels from Angola. In fact, to date, [95%](#) of Angola's total exports are crude oil exports. It is therefore clear that Italy's main economic interests in Angola are linked to the oil & gas sector, but also to the agribusiness sector, considered a priority by the Angolan authorities for economic diversification, and to the construction sector. The Italian business presence in the country includes [Eni](#) (which has been present since 1980), [Azule Energy](#) (a joint venture created in 2022 by [Eni](#) and BP), [SAIPEM](#) (whose activities have been further empowered by new contracts in 2022), and [CMC](#).

In the fossil fuel sector, in 2023 Angola was the tenth [supplier](#) in the world and third in Africa (after Libya and Nigeria) of oil to Italy, with 1.4 million tonnes exported in that year. **The export of gas to Italy began in 2022 following the agreement signed during the Italian mission to Angola in April 2022**, which was attended by the then Ministers Di Maio and Cingolani and Eni CEO Descalzi. **In 2022, Italy received 91 million cubic metres of liquefied natural gas (LNG)¹, representing about 3% of Italy's total LNG imports.**

At the heart of that agreement was an [increase in gas supplies of 1.5 billion cubic metres per year](#), which was considered of crucial importance for detaching from Russian gas in the aftermath of the invasion of Ukraine. Following the agreement, the Italian company decided to further strengthen its presence in the African country through the creation of the [Azule Energy](#) joint venture with the company British Petroleum (BP), combining the two companies' oil and gas exploration and production businesses. Following the merger, Azule Energy is now the largest independent oil and gas producer in the country.

3 OIL AND GAS IN ANGOLA

According to [OPEC](#) data, Angola ranks seventh in Africa in terms of proven oil reserves with 2.5 billion barrels of oil, and it is the second largest oil producer in Africa, after Nigeria, even though its production has been steadily [declining](#) since 2016. This is due to the freeze in investments as a result of the significant drop in oil prices that occurred in 2014 and the low availability of foreign currency in the country. The main industry players

¹ IEA data

in the upstream segment are ExxonMobil, TotalEnergies, Chevron and Azule Energy, which often operate alongside the national company Sonangol.

However, compared to many other African countries, Angola is certainly not rich in gas. Its [proven reserves of natural gas](#) reach about 300 billion standard cubic metres. By way of comparison, the estimated proven reserves of natural gas in Nigeria reach 5 trillion standard cubic metres. The reason for this is the [geological conformation](#) of the Angolan territory, whose rocks are more likely to yield oil than gas. Similarly, compared to almost all OPEC countries, Luanda has a much [lower](#) annual gas production which, moreover, has been declining for five years.

Until now, domestic consumption of natural gas has always been limited, and in particular, up until 2013, most of the natural gas produced was burnt and released into the atmosphere through flaring practices. Although this phenomenon has been almost halved over the past seven years, according to the World Bank's [Global Gas Flaring Tracker](#), Angola is still among the top 20 countries in the world in terms of flaring intensity.

Gas [production](#) remained stable and in line with the country's domestic consumption until 2014, when an increase in production was recorded, coinciding with the start of LNG exports from the [Angola LNG](#) terminal in Soyo. This confirms that investments in new gas fields and the expansion of existing gas deposits were made to satisfy primarily foreign markets and not only the domestic market. The state-owned company Sonangol, the American Chevron (which holds the majority stake), TotalEnergies and Azule Energy (Eni-BP joint venture) are involved in the project. The terminal has an export capacity of 5.2 million tonnes per annum (MTPA) and the main [target markets](#) for LNG supplies are those of Europe and Asia, and more specifically the UK, France, Belgium, India, Singapore and Turkey.

To prove that gas production in the country today is mainly destined for export, one just has to look at the energy access data. Firstly, in 2021, gas exports accounted for [80%](#) of primary production of natural gas, while final consumption of natural gas was only 6% of total production. Moreover, with the exception of a limited number of city centres, the rate of access to energy and electricity still remains very low. In fact, to date, only 45% of the population have [access to electricity](#), while 18 million do not. Among the 45% who have access, only 7% are living in rural areas.

4 SOCIO-ECONOMIC IMPLICATIONS OF FOSSIL FUEL DEPENDENCY

The oil sector is key to the Angolan economy, accounting for one-third of the country's [gross domestic product \(GDP\)](#), over 90% of exports and [75% of government revenues](#). In recent times, the government has been working to develop an integrated oil and gas industry.

However, the country's great dependence on the production and sale of hydrocarbons has made the national economy extremely vulnerable to the volatility of crude oil prices. According to the [World Bank Group](#), Angola experienced a deep seven-year recession following the 2014 collapse in oil prices, worsened by the dynamics associated with COVID-19 pandemic. Despite a modest recovery since 2022, made possible by high oil prices that year, GDP per capita today is still far below what it was a decade ago.

One of the first measures adopted by the government, following the [advice](#) of the International Monetary Fund (IMF) in 2015, was the gradual phasing out of fuel subsidies, a policy that principally affected the poorest sectors of the country. The resulting drop in imports (reduced by 50-60%), the substantial increase in prices of basic necessities, and the steady decline in the value of the national currency led to the signature of a [\\$3.9 billion loan](#) from the IMF in 2018, the largest ever granted by the Fund in Africa.

In March 2020, the [government's spending capacity](#) was hit by a new drop in oil prices, when the price of a barrel of oil fell from \$45 to \$32, wiping out 6% of the GDP overnight. The 2020 state budget had been calculated on an oil price of \$55 per barrel, so the national parliament had to ratify a budget revision in June, with an overall cut of 15.7% and a 23% reduction in public spending. Debt repayments, which accounted for 56.8% of spending in the original budget, remained the largest public expenditure, higher than the sum of all other expenditures, with an estimated debt-to-GDP ratio of 130% at the start of 2021. Data [showed](#) a reduction in actual spending in the education and health sectors.

Another constraint to the national budget is the country's limited refining capacity, **Angola, despite being one of the largest producers in the region, imports 80% of its demand for refined petroleum products**, spending more than [\\$1.7 billion annually](#) to import these products. The only operational refinery – in Luanda – covers only 20% of the national demand for refined products. The government has [announced](#) plans to expand the refinery capacity to 72,000 barrels per day by means of a \$235 million project.

The [incidence of poverty](#) has also increased in recent years: today 53% of the population lives below the international poverty line, namely on less than \$2.15 per day. According

to the [World Bank](#), 80% of jobs are in the informal market. Furthermore, accelerating urbanisation has led to the growth of vast, densely-populated informal neighbourhoods in all urban centres, where people have no access to water, electricity, sanitation, health and education.

Linked to all this is the profound [inequality](#) that characterizes the Angolan society. Not only does it concern unequal access to energy, but it also has repercussions on access to state financial resources. In particular, Luanda, home to just over a third of the national population, receives almost 75% of the budget, while the rest is unequally distributed in the other 17 provinces.

Moreover, the income from resource exploitation and the lack of transparency regarding distribution and use have fuelled corruption. Starting from the oil sector, the previous dos Santos presidency developed a network of patronage operating in various sectors of the economy, through companies controlled by the party élite. According to [Transparency International](#), the country ranks 120th out of 180 in the World Corruption Index.

It follows, of course, that moving ahead from the fossil fuel-based system is politically a very complex issue, as oil revenue and political power go hand in hand.

In order to attract international investors and revitalise the sector, the Angolan government launched two licensing campaigns in early [2022](#) and in [2023](#). To date, most of the projects for the development and expansion of new fields are operated by Azule Energy, which was established on the sidelines of the first licensing campaign.

The government is striving to move from an exclusively oil-based industry to an integrated oil and gas industry. The May 2018 presidential decree published the country's first [natural gas law](#) which comprises more advantageous tax rates for gas. The tax on gas production is 5% (compared to 10% for oil). Tax on income from gas is 25% (as for oil) for associated gas and 15% for non-associated gas.

Developing the gas industry today would require significant investment. Due to the decline in production and very high production and operating costs (averaging \$40 per barrel), the ability to recover costs in the long term is uncertain. In fact, these large capital investments need decades of production to recover costs and meet the various financial commitments of both private investors and the government, especially when large infrastructure development projects are involved. Therefore, in a [scenario](#) in which global gas demand is destined to fall as early as 2030 in the energy sector and then increasingly in the civil and industrial sectors, countries now investing into the development and consolidation of the gas sector would face *stranded capital*, in other words, the impossibility of recovering investments because they are no longer profitable due to a collapse in prices and demand. In fact, a [research study by the African Climate](#)

[Foundation](#) shows that **investments in gas by African countries can have very negative consequences on the economy, particularly in scenarios in which global warming is limited to well below 2°C in accordance with the Paris Agreement and in the net-zero emissions scenarios by 2050 that offer the greatest chance of limiting warming to 1.5°C.**

5 ANGOLA AND CLIMATE CHANGE

According to a [study](#) by the United Nations Development Programme (UNDP), due to climate change, average annual temperatures in Angola will increase between 1.2 and 3.2°C by 2060. Rising temperatures facilitate the occurrence of extreme weather events that, added to the environmental impacts caused by the national mining industry, would lead to increased flooding, land degradation and groundwater contamination.

The country's development is highly exposed to the impact of climate change, with effects including floods, erosion, droughts and epidemics, as well as risks related to the rise in sea level, particularly in [coastal areas](#) where more than 50% of the population live. In the early 21st century, floods caused great devastation, resulting in enormous damage to infrastructure and housing. Increasingly scarce water availability and more extreme weather events will pose growing challenges to agricultural production and food security. The World Bank's [Climate and Development Report](#) estimates that for Angola, direct economic losses due to drought in the agricultural sector, which today employs 51% of the population, could rise from the current \$100 million per year to over \$700 million per year by 2100.

Angola is not sufficiently equipped to meet climate-related shocks due to, among other things, low levels of agricultural technology and a lack of climate-resilient infrastructure. The [Climate Policy Database](#) considers the development of general climate policies to be at the borderline of sufficiency, while sectoral policies are grossly inadequate. Considering the positive aspects, in 2012 Angola established the National Committee for Climate Change and Biodiversity, a coordinating body for climate strategy. Moreover, since 2008, it has had a [long-term strategy up to 2025](#), that is expected to increase the national electrification rate by about 60% by 2025 and the installed capacity by 9,900 MW by 2025, mainly from hydro-electric power. However, in 2022, Angola was standing at [6,200 MW of installed capacity](#), 66% of which was represented by hydro-electric power.

6 AN ALTERNATIVE FOR ANGOLA

In the context of an economic transformation of the country that is driven by climate imperatives, Angola begins from a disadvantaged position in terms of building resilient forms of development.

As the analysis has shown, over the past two decades, economic growth based on oil has not led to inclusive development and moreover it is now losing its impetus. **In fact, the oil-driven growth in GDP has not been able to reduce poverty or build the foundations of the human and physical capital necessary for a sustainable and more diversified economic growth; on the contrary, it has generated economic distortions, increasing corruption and instability in the country.**

The need for economic diversification was also widely recognised by the President, who defined it as “a matter of life or death” for the country. An increased focus on economic diversification and private sector-led economic growth has been included as a priority action in the new [National Development Plan \(2023-2027\)](#). The strategy would be to use the revenue from its oil “wealth”, which is currently declining, to diversify the economy by reducing dependence on the oil industry and creating sustainable opportunities.

In fact, it has been [estimated](#) that if Angola does not adopt any measures and does not make efforts to diversify its economy, Angola's gross domestic product (GDP) could drop by up to 6% by 2050.

Therefore, it is essential to urgently prioritise the removal of barriers to private sector investment in order to achieve economic diversification and support growth, job creation and the reduction of poverty. However, Angola's most promising non-mining sectors are highly sensitive to climate impacts and are already subject to stress. One of them is the agricultural sector which, due to its abundance of arable land, has the highest potential to drive diversification, but at the same time is also the most vulnerable. Hence, there is a need to plan measures that address mitigation and adaptation in an integrated manner, since attaining climate resilience is inextricably linked to the success of Angola's economic diversification.

In this framework, **an appropriate response should include political reforms, the reinforcement of institutional structures and climate finance, working to diversify the national economy by leveraging non-oil sectors** such as sustainable agriculture, renewable energy, mining, fisheries and eco-tourism in a sustainable manner. The concepts of equitable transition and economic and social resilience should therefore drive the diversification of the economy, moving away from fossil fuels and creating alternatives for a secure and sustainable future.

By way of example, we can consider the fact that in 2022 the country's [growth rate](#) rose from 1.2% in 2021 to 3%. The [World Bank](#) explains that although the country's economic performance is still primarily driven by global oil demand trends, the expansion of non-oil sectors, particularly agriculture and fisheries, which grew by almost 4%, indicates that more support for economic diversification can significantly contribute to the country's growth.

6.1 SUSTAINABLE AGRICULTURE AND THE RISK OF BIOFUELS

Sustainable agriculture is crucial in contributing to food security, and at the same time it has great commercial potential, so it could become a pillar of the country's economic diversification.

To date, however, the sector is very unproductive and poorly developed, employing just over half the population, most of whom are involved in subsistence agriculture. Although it represents just 9% of the GDP, it has an immense development potential, considering the fact that today, only one third of the land in Angola that could be farmed is currently cultivated.

In this context, investments in sustainable agriculture should include [techniques](#) for sustainable resource management and the reorganisation of agricultural subsidies, as well as investments in adaptation. Increasingly frequent floods, which have always been accompanied by progressively longer periods of drought, are causing irreversible damage to crops and arable land. **In fact, Angola ranks 159th out of 185 countries in terms of exposure, sensitivity and capability of adapting to the negative impacts of climate change.** Therefore, arranging investment in adaptation is key not only to preserving arable land but also, indirectly, to the profitability of the sector and the productivity of the workforce.

Another element of risk for the food security of almost 35 million inhabitants is the growing interest in the cultivation of raw materials (such as castor oil) for biofuel production, which sees allocating much of the land not yet cultivated to these crops. Since the last decade, the Angolan government has decided to free up 500,000 hectares (about 5,000 square kilometres) of land to be dedicated to the production of biofuels – thus subtracting it from growing products for food purposes. It is also expected that [biofuel production will increase by 2030](#), particularly in view of the [protocol signed by Eni, ANPG and Sonangol in 2021](#) for agro-biofuel projects, including the construction of a biorefinery.

As the [United Nations Food and Agriculture Organisation \(FAO\)](#) has underlined, in many cases, “biofuel production creates competition between biofuel crops and food crops.”

The government, therefore, should review biofuel policies according to scientific assessments and balanced evaluations of the opportunities and risks that these policies could represent for food security.

6.2 SUSTAINABLE MINING INDUSTRY

The Angolan government has [declared](#) its intention to increase investments to boost the production of critical minerals as a pillar of the country's economic diversification. [The Angolan Mining Conference and Exhibition \(AMC\)](#) held in November 2023, already at its second edition, had a twofold objective: to demonstrate the country's wealth of critical minerals and, at the same time, to highlight the fact that international industries wishing to invest in the sector will have to provide refining and processing facilities on African soil in order to foster technological development and local employment, and thus also encourage local value creation.

Angola possesses 36 of the 51 most [critical minerals](#) in the world **including chromium, cobalt, graphite, lead, lithium and nickel**. In other words, Angola has the resources to become a major player in the production of critical minerals. According to some [sources](#), Angola is also considering starting to produce neodymium and praseodymium, two important metals used in the production of batteries for electric vehicles.

However, while developing this important sector for the transition, **it is important to remember the impact that the extraction of these minerals could have on the country's freshwater supplies**. Since many mining sites are often located in arid areas with a low consumption of water, the rapid increase in mining activities in these regions could increase water demand, creating a risk of competition for water between agricultural, industrial and domestic users.

Planning the development of a sustainable mining industry cannot fail to take this latter aspect into account, as well as the respect for human rights and environmental and labour standards outlined in the UN framework. The development of local cutting-edge industrial resources capable of keeping as much value as possible on site, considering critical raw materials (CRM) and other aspects, is in fact a fundamental step for the country's sustainable growth.

In addition, Angola finds itself in a strategic position as the port of Lobito, which is located in the central area of the country, provides access to world trade by sea, also for other countries such as the Democratic Republic of Congo (which has very limited access to the sea), a major producer of lithium, and Zambia (which has no access to the sea) and its *copperbelt*.

In this framework, the ambition shown by Angola and its neighbouring countries to focus on the critical minerals industry, even at a geostrategic level, has already captured the attention of the European Union and the United States, in addition to China. Last October, the European Union, the African Development Bank, the Africa Finance Corporation (AFC) and the United States signed a [Memorandum of Understanding](#) on the sidelines of the Global Gateway Forum in Brussels, to support Angola, the Democratic Republic of Congo and Zambia in the development of the so-called Lobito Corridor, which connects the Angolan port with inland countries. The project has the potential to transform Angola into a geostrategic trading point for critical minerals.

On the European and US front, interest in and support for the project reveals the desire to take position along value chains – those of critical minerals and more specifically, batteries for electric vehicles – that will increasingly become important at global level over the next two decades, and in which China plays a dominant role. This is true not only in general, but more specifically in this area of the African continent, where [competition](#) with Beijing in the area of critical minerals promises to be difficult. In any case, **the Lobito corridor has a wider significance for Angola and the region in the light of international trade, and it could play an important role in the framework of a strategy of industrialisation and diversification of the country's economy, with the support of international partners.**

6.3 RENEWABLE ENERGY

Renewable energy, above all hydroelectric, but also solar and wind power, represents a fundamental opportunity for Angola. According to [studies](#) performed in 2014 by the Angolan Ministry of Energy and Water, there is a great potential for renewable energy production in the country: 16.3 GW of solar power, 3.9 GW of wind power and 18 GW of hydroelectric power (at the present time, only 20% is utilised). According to recent processing of GIS data performed by ECCO, which analyse the most suitable areas for the installation of renewable plants considering technical barriers, such as grid extension, terrain orography and legislative constraints, the potential of solar power is significantly higher, about [400 GW](#) while wind power potential represents [15 GW](#).

In 2020, the installed electrical capacity in Angola was 5.9 GW, 64% of which was renewable. Of the 3.7 GW of renewable capacity, 98% was represented by hydroelectric power, while other sources accounted for an insignificant percentage. As a result, the renewable share of electricity generation is also very high, 72% with 12,781 GWh, growing rapidly over the years: in fact, since 2014, it has more than doubled.

Hydroelectric power is therefore the main source of electricity generation in the country, due primarily to hydroelectric power plants on the Kwanza, Catumbela and Cunene

Rivers. Hydroelectric power will also remain a dominant resource for the country in the near future, as the Angolan government is devoting numerous resources to further develop the use of this source to generate electricity and increase the percentage of access to electricity by the population. In fact, its development potential [is estimated](#) to be ten times the currently installed capacity. At present, projects in course of development that will become operational later this year will add more than 4GW² of capacity. In addition, another 100 locations have been [identified](#) as suitable for a cumulative capacity of 600 MW.

With a solar irradiation of 1,350-2,070 kWh/m² per year, solar energy has great potential in the country. The government has set a target of installing 100 MW of capacity by 2025. At present, Angola has several photovoltaic plants under construction, totalling 340 MW³. Two wind farm projects are also under development: Kiwaba Nzoji wind farm with a capacity of 104 MW and Tombwa, with a capacity of 20 MW.

In order to best develop these sizeable resources, private investments and technical assistance for institutions are required. The Angolan government has so far undertaken significant reforms with the aim of improving the country's investment climate, which include the adoption of a renewable energy strategy; the revision of the electricity tariff regime and the reform of energy subsidies; and the adoption of laws concerning the purchase and distribution of electricity in order to support independent power generation. However, barriers remain, such as that shown by the Angolan government with regard to the development and implementation of a regulatory and institutional framework to encourage private investment.

In addition, more than half of the population is not connected to the electricity grid, which implies that to [construct resilience](#), **investments for the expansion of the transmission and distribution network, in addition to off-grid solutions, will be a priority.**

Accompanied by these latter solutions, renewables can be instrumental for large-scale deployment and increased access to electricity, especially in rural parts of Angola where [an estimated 90 per cent of the population lives](#). These solutions would bring numerous benefits. First of all, they would allow the country to cut expenses currently dedicated to purchase oil-based products, which, as mentioned above, represent a significant expense for the state budget and whose prices are highly volatile. Similarly, creating

² Laúca Hydroelectric Dam, with a capacity of 2,070 MW; Caculo Cabaça Hydroelectric, with a capacity of 2,171 MW

³ Saurimo Solar, with a capacity of 27 MW; Luena solar farm, with a capacity of 27 MW; Biòpio solar farm, with a capacity of 189 MW; Benguela solar farm, with a capacity of 97 MW

decentralised energy access systems would help to unhinge an unfair system of energy distribution.

More in general, investments and projects to improve the electricity transmission and distribution network would facilitate the introduction of renewable energy, replacing biomass, which today is the primary fuel used by Angolan households as an energy source.

6.4 ECO-TOURISM

The sector of tourism has an untapped potential. After a peak of arrivals in 2013 and, consequently, in revenue from this sector, Angola suffered a drastic decline from 2020, a condition from which it is struggling to recover. The latest available data show that in 2021, Angola generated around USD 22 million in the tourism sector, which corresponds to 0.021% of the gross domestic product, while in the three years before the COVID-19 pandemic, revenue had averaged over USD 600 million per year.

Recently, Angola has been trying to revive its image, aiming to become a nation open to tourism and to enhance its natural and cultural heritage by making it easier for visitors to enjoy. Among other actions, a [presidential decree](#) exempting citizens of 98 countries from the tourist visa requirement was approved in September 2023, as well as the [inauguration](#) of a new airport in the capital Luanda, capable of handling 15 million passengers per year.

Thanks to its rich biodiversity and the presence of forests, national parks and long coastlines, Angola has great potential in the area of [eco-tourism](#), or sustainable tourism. The country is already working on this: Angola's National Biodiversity Institute, together with the [Ministry of Tourism](#), are exploring the potential of eco-tourism to address the economic deficit through biodiversity.

Two measures are essential to obtain these results: the first is the creation of favourable conditions for investment in the tourism sector, which implies a revision of investment law, the removal of barriers to entering the market, and the facilitation of bank credit for new projects. The second axis regards infrastructure and requires the creation of an adequate transport network, comprising roads, planes and boats.

Angola should take advantage of the situation to best handle the consequences of falling prices and, consequently, oil revenues to diversify the economy. Eco-tourism can fit into this framework, focusing on an inclusive “*community approach*,” involving local communities and onsite productive sectors, such as the agricultural sector, to the highest degree possible.

6.5 FISHING

According to [UNCTAD](#), the fisheries and aquaculture sector can help Angola diversify its economy, create jobs and business opportunities, increase food security and reduce poverty. In fact, the sector has been the subject of international support for years ([the EU, UNCTAD, the African Development Bank and the International Fund for Agricultural Development](#) can be cited in this regard).

With 1,650 km of Atlantic coastline, and an [Exclusive Economic Zone \(EEZ\)](#) of 332,000 km², Angola has very solid potential in the fisheries sector in the medium to long term.. The artisanal fishing sector already provides [jobs](#) for many Angolans (in particular, 80% of those employed in fish processing and sales are women), and artisanal fishing plays an important role in food security in a country where, as we have seen, the poverty rate is particularly high. In this outlook, the fisheries sector's contribution to national GDP dropped from 4.6% in 2011 to 2.1% in 2018, but the [2023-2027 National Development Plan](#) aims to increase it to above 4% by 2027.

To date, the sector remains well below its potential for a number of reasons, including the large percentage of informal and unregulated work, and the lack of infrastructure which would allow the achievement of international standards in the fields of preservation and processing, which could then favour the export of Angolan fish to international markets. To date, in fact, fishing performed in national waters by Angolan fishermen remain [in the country](#). By the same token, it has been reported that [industrial fishing](#) conducted by international companies tends to overlap with artisanal fishing, creating problems for food security of the Angolan population and jeopardising the local economic balance and biodiversity.

In this context, it is important that both the government and international partners and organisations support the Angolan fishing sector in a sustainable manner that respects both local communities and their balance, to the same degree that they respect the environment, and in this outlook they should create local added value while also encouraging the diversification of the economy. It is within this framework that the promotion of entrepreneurial activities should be considered, taking particular advantage of the potential in the international fish trade, which is expected to reach [250 million](#) tonnes per year in 2030 (the figure was 187 million tonnes in 2018).

In addition, it is also necessary to mention that a Partnership Agreement for Sustainable Fisheries (APPS) is being [considered](#) by the UE, along the lines of the intentions expressed by the Angolan Minister of Agriculture and Fisheries. If concluded, the agreement would [replace the direct permits](#) under which fishing vessels flying the flags of EU Member States fish in Angolan waters. The conclusion of an APPS should aim to favour Angolan exports to the EU, promoting the achievement of common standards;

helping to ensure respect for the so-called [artisanal fishing zone](#) and combat the phenomenon of illegal, unreported and unregulated fishing (“IUU fishing”).

7 A NEW APPROACH TO ANGOLA

The case of Angola clearly demonstrates how the exploitation of fossil fuels has not benefited the country's all-round development in any way, instead fuelling a vicious circle of debt, poverty and inequality.

The excessive dependence of the state budget on oil revenues has prevented the development of alternative sectors while making the national economy extremely vulnerable to the volatility of crude oil prices. Despite a weak rebound in oil prices over the past two years, the Angolan economy is still struggling to recover from the latest shocks, with disastrous consequences on debt as well.

Similarly, betting on an emerging gas industry presents numerous risks: given the current decarbonisation scenarios, investing in the development and reinforcement of the gas sector means running into *stranded capital*, in other words, the impossibility of recovering investments as they are no longer profitable due to a collapse in prices and demand.

Therefore, as regards to Italy, focusing on a partnership with Angola built on fossil resources is neither convenient nor far-sighted. In this context, an analysis of oil and gas demand trends reveals the unsustainability of these investments, both in oil and new LNG supplies.

According to the International Energy Agency (IEA), in the Announced Pledges Scenario (APS), the global demand for oil and gas will decrease by an average of about 2% per year until 2050 (to 55 mb/d and 2,400 bcm), while in the Net Zero Emissions (NZE) Scenario it decreases by an average of more than 5% per year until 2050 (to 24 mb/d and 920 bcm). According to [WEO 2022](#) if we take a closer look at the expected trend in gas demand, in the NZE scenario, no new infrastructure is needed. In fact, global gas demand is in sharp decline in both the NZE scenario and the APS scenario ([WEO, 2023](#)) This applies to all geographical areas – even Africa, where domestic gas demand under announced and implemented policies is stagnant at current levels, and declining in the net-zero scenario.

Looking at Italy, if the G7 commitment signed in 2022 and strengthened in 2023 of a decarbonised electricity system to 2035 were to be implemented, and European targets for 2030 and those of the *Piano Nazionale Integrato Energia e Clima* (National Energy

and Climate Plan, NECP)) were to be met, gas demand [would drop](#) by 40% in 2030 when compared to 2022. Furthermore, scenarios aligned with climate targets, which meet the above-mentioned commitments, [have shown](#) how the current import infrastructure already allows the security requirements to be met.

As for supply, as recently [announced](#) by Fatih Birol, Director of the IEA, so much new LNG capacity is expected to come on stream globally by 2025 that, in an NZE scenario, an oversupply will occur, making the global gas market a “buyer” market – in other words, a market in which there is an excess of supply over demand, leading to a collapse in prices.

In fact, the IEA [report](#) “The Oil and Gas Industry in the Transition to Net Zero Emissions” highlighted how LNG projects, under construction or at final investment stage, are destined to add 250 bcm per year of liquefaction capacity by 2030, equivalent to almost half of the current global LNG supply, with a particularly large increase between 2025 and 2027. Against this backdrop, the expected gas price in major consuming economies (US, EU, Japan) in 2030-2050 in the NZE and APS scenarios ([WEO 2023](#)) turns out to be below 2010 levels – net of market shocks. On these grounds, **it has been estimated that 75% of the LNG projects currently under construction in the NZE scenario and 66% in the APS scenario would fail to recover their invested capital. On the African side, this would seriously jeopardise the debt sustainability of governments that have defined their budgets on the calculation of revenues that, however, will not arrive, further aggravating the debt status of the countries.** On the Italian side, if there were guarantees from SACE, the State coffers (and therefore taxpayers) would have to compensate for the equivalent share of the loss to compensate for the failed investments protected by the guarantees.

In this context, insisting on a relationship based solely on the exploitation of oil and gas increasingly ties Italian foreign policy hydrocarbon policy, in complete contradiction to Italy's climate commitments, not least the commitment signed at [COP28](#) that commits all parties to the need to transition away from fossil fuels in energy systems.

In keeping with the innovative character that should hallmark the Mattei Plan, the Italian partnership with Angola should instead see a concrete commitment by the Italian government with regard to the following points:

- **Commit to stop promoting new oil and gas exploration and development projects, both through a clear political direction and via public finance.** In fact, concluding new oil and LNG supply agreements with Angola would lock Italy into contractual commitments that, in the medium and long term, would prove redundant and unnecessary. This commitment would respond to numerous international mandates that Italy has pledged to uphold, including:

- [The Paris Agreement](#), signed in 2015 during COP21, which calls on signatory countries to take action to limit global temperature rise to 1.5°C compared to pre-industrial levels.
- The [Glasgow Statement](#), signed at COP26 in 2021, with the objective of ending new direct public funding for fossil fuel projects abroad by 2022 – a commitment that, so far, Italy has not yet fulfilled: from January to September 2023, Rome has invested at least USD 1.2 billion in public subsidies for fossil fuel projects worldwide, second only to the United States.
- The [Beyond Oil and Gas Alliance \(BOGA\)](#), a diplomatic initiative launched at COP26 by countries and sub-national players pledging to gradually phase out oil and gas production in line with the goals of the Paris Agreement, and which Italy has joined as a friend/partner.
- **Redirect public finance incentives, such as SACE guarantees and the Italian Climate Fund (FIC), to support only projects unrelated to the oil and gas industry and using them, instead, to support non-oil, emerging and promising sectors, for both the diversification of the Angolan economy and the energy transition. Examples include projects for renewable energy and critical minerals, sustainable agriculture, fishing and eco-tourism.**
 - These are sectors that have an unexpressed potential, but which the Angolan government has declared that it wishes to develop in order to pursue a true economic diversification of the country, which is now unavoidable and urgent.
 - This aspect is fully in line with the objectives of the Mattei Plan, which aims to foster the economic development of African countries in order to promote stability on the continent. In this framework, the sectors of renewable energy, education and training, and water and food security - privileged areas of cooperation and investment between Italy and African countries in the framework of the Mattei Plan - are all extremely relevant in the Angolan context, and represent [privileged areas of cooperation](#) between Team Europe and Angola.
 - In this outlook, as analysed, the development of the Lobito Corridor goes beyond the “mere” creation of a facilitated route for the export of critical minerals and acquires relevance also in areas including the industrialisation and commercial potential of the region and, obviously, of Angola.
- **Contextualize Italy's renewed focus on Angola within the Mattei Plan in the framework of EU's broader cooperation strategy with Angola, aimed at promoting the country's inclusive and sustainable development and integrating it into global markets by diversifying its economy.**
 - Italian funds allocated in the framework of the Mattei Plan and potentially dedicated to Angola could support other finance mechanisms set up at European level, such as the [Sustainable Investment Facilitation Agreement \(SIFA\)](#) adopted by the Council in March 2024. This represents the first

Sustainable Investment Facilitation Agreement ever negotiated by the EU, specifically designed to support Angola in the process of diversifying its economic model and to improve the investment climate for foreign and local investors.

- An Italian focus on Angola in the framework of the Mattei Plan should (in the case of Luanda, as well as for other African countries) take on a European dimension by connecting to the EU's Global Gateway Initiative, which has a strong African connotation. In this framework, in February 2024 the EU and Angola [signed](#) four new financial agreements aimed at supporting the African country's economic diversification, for a total of €90 million, also focusing on the blue and circular economy.
- **Italy should support Angola in adopting adaptation policies that can build resilience to cope with losses and damage within the territory, given the extreme vulnerability to the impact of economic sectors which are of priority importance for economic diversification.** More generally, climate change adaptation policies should be part of a broader framework of a long-term strategy - lacking to date - that can codify the country's commitments, in terms of policies and objectives, towards achieving the Paris Agreement targets.
 - The link between climate and food systems is a crucial element to be taken into account. As [expressed](#) by Italian Prime Minister Meloni at COP28, it is necessary for the FIC to address this issue by planning action both from the point of view of cultivation technologies, crops and capacity building. This remains central for a country in which the agricultural sector, despite its great potential, is still underdeveloped and where food security is strongly at risk.
 - Through the Adaptation Fund, which [Italy supported from 2015 to 2022 with more than 71 million euro](#), and the FIC, Italy could enhance its bilateral cooperation programmes by financing adaptation projects. This could be done by following the example of the model developed in Ethiopia for which the Ministry of Environment and Energy Security (MASE) has allocated \$4.2 million to the three-year *Climate Smart Integrated Rural Development Project in the Pastoralist area of Ethiopia*, as a project complementary to the *AF Climate Smart Integrated Rural Development*. Currently, the AF already has a [project](#) in Angola, in the Cuando Cubando area. This is a project aimed at enhancing adaptation capacity and resilience of communities to climate change impacts and variability in the transboundary region between Angola and Namibia., through building organisational and technical capacities for climate-resilient water management, as well as improving food security in response to climate change impacts amongst rural communities. The replicability of the Ethiopian model in Angola and its application to projects that the AF is carrying out or will carry out in the country requires the MASE to strengthen its bilateral relations with Angola,

which does not currently figure among its [partners](#). Relations could deepen within the framework of the broader Italian focus on Africa defined by the Mattei Plan, also by leveraging the historical relations of friendship between Rome and Luanda.

- **Activate and strengthen forms of economic and industrial diplomacy to identify zero-emission projects that can mobilise private finance.** The contribution of these stakeholders should not be limited to providing support for the construction of plants, but should offer assistance for long-term planning, including the support for innovation and capacity-building along the entire value chain.
- **Lastly, Italy should actively support the Angolan government to identify a model for reforming the tax system which would help to replace the country's fiscal dependence on the sale of hydrocarbons with an income and expenditures system hinged on sustainable, lasting, and effective welfare.**



THE ITALIAN CLIMATE CHANGE THINK TANK

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