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EU Financing of energy production

Euro-Med Gas hub Win/Win for EU and Mediterranean countries

Abstract

The EU needs to increase investment for the ecological transition especially in the energy sector, replacing fossil fuels by CO2 free energy sources, which would also lead to better growth and employment. The Austrian ASFINAG model, which makes use of the flexibility of the Stability and Growth pact, could serve as a model to increase investments in the EU energy infrastructure significantly.

New EU climate fund of 100 bn Euro based on the Austrian ASFINAG model, for energy investments in the EU and neighbouring regions. As the model provides cheap financing, due to a state guarantee, which could be matched with private funds which are more expensive, because of the equity risk premium.

Because of the urgency of replacing Russian gas and also some oil, the EU should start with a **Euro-Med Gas hub of 50 bn Euro**. The EU provides investment funds to replace inefficient electricity production in the Med countries from gas and oil with more efficient gas or wind and solar power plants. The saved oil and gas, is exported to the EU and pays back the investment in a short time span.

The Mediterranean region could benefit from Financing Mechanisms which have been successful in the Danube region, the Danube Financing Dialogue (DFD) for SMEs and small projects and the Austrian ASFINAG model which is also partly implemented in Germany. The Danube and the Mediterranean region have in common that they cover rich and poor countries.

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EU Strategy for the Danube Region

The EU Strategy for the Danube Region is a macro-regional strategy covering all countries along the Danube from the Black Forest in Germany, Baden-Württemberg, Bavaria, Austria belonging to the richest region in the EU, to the Black Sea, with Serbia, Northern Bulgaria one of the poorest regions.

The objective is to address common challenges and coordinate existing policies and programmes to strengthen integration in the Region. The richer regions finance development in the poorer regions, mostly through FDI, creating successful regional value chains, e.g., in automotive industries. They combine sophisticated technology with cheap labour in the poorer regions, making both more competitive.

Financing Mechanisms

Danube Financing Dialogue (DFD),

brings together those who have the money Commission, EIB, EBRD, Banks with SME and small project promoters, who need money. The DFD is in the framework of the EU Strategy for the Danube Region. When I organised the 1st Danube Financing Dialogue in Vienna in 2012 at the Oesterreichische Nationalbank, together with the City of Vienna, I did not think that we would have a series of successful DFDs before us. We had DFDs in the Central Banks in Belgrade, Bucharest, Zagreb and Bratislava in the following years. One of the factors to the success was the involvement of Central Banks in the DFDs as they are a good neutral platform for project promoters and financing institutions to meet and discuss the financing of projects. Another factor is that the DFD is oriented towards SMEs who are most affected by financing difficulties. The series of Danube Financing Dialogues brought together many key experts from national and international institutions, policymakers, bankers and academics. This helped to identify good projects and the flow of funds into the Danube region. They were quite successful in bringing together SME projects with financing partners internationally, but also nationally, mostly banks. Funding gaps for SMEs are a major impediment to growth and therefore a serious problem in terms of economy wide growth. The availability of SME finance is hugely important especially to the countries in the Danube Region in terms of economic growth, employment, innovation, and competitiveness.

ASFINAG Infrastructure Financing Model

The ASFINAG model implemented in 1997 in Austria makes use of the flexibility of the EU Stability and Growth pact. I was at that time economic adviser in the cabinet of 3 Finance Ministers and involved in constructing the ASFINAG model (Nauschnigg, 2015). ASFINAG finances and operates the whole Austrian highway system and has improved it significantly. ASFINAG is state owned and has a state guarantee for its debt, which allows cheap financing. Also, Central Bank financing, as ASFINAG is included in the APP of the Eurosystem. ASFINAG though state owned is a private company and is classified as private sector company by Eurostat, as it can cover its costs through user fees – Vignette for cars, road pricing lorries and some toll roads for expensive alpine crossings.

ASFINAG Model for Austrian highway system allows cheap financing of infrastructure and efficient building and operations. Model could be used for energy transition, financing infrastructure and production especially wind, solar. Allows cheaper financing of energy transition as financing is cheaper than by private companies – high equity risk premium. German government expert group, where I presented ASFINAG Model, compared it to Public Private Partnerships, found it more efficient and recommended it (Expertenkommission, 2015). It was partly implemented in Germany with the Autobahn GmbH. This cheap financing provided by the ASFINAG Model, due to the state guarantee, could be matched with private funds which are more expensive, because of the equity risk premium (Nauschnigg, 2022).

Financing Mechanisms for EU Green transition

The EU has set ambitious climate targets with its Green Deal and Fit for 55 packages. They require substantial additional investments and major regulatory and tax measures. The EU's energy policy response to Russia's invasion of Ukraine, REPowerEU, foresees either additional or frontloaded measures to foster the green transition. These climate investments will have to be funded. While most investments would be funded by the private sector, a large share of the costs will have to be funded by the public sector, either as public sector investment or by incentivising private sector investment, due to network externalities, information inefficiencies, or political economy realities.

ASFINAG model used for a new EU climate fund of 100 bn Euro

Up to now there exists no plans how EU governments will meet the challenge of significantly increasing climate funding when EU fiscal rules (after their re-introduction) will require fiscal consolidation.

The ASFINAG model (state guarantee allows cheap financing) which is operating successfully and is compatible with EU fiscal rules could be used to foster green public investment. Interested EU countries should provide Guarantees to create an **EU climate fund of 100 bn Euro**. The cheap financing provided by the fund should be invested into the energy transition in the EU, but also in neighbouring countries, alone or in combination with private funds. The returns should at least cover the financing costs of the EU climate fund. The EU climate fund allows cheaper financing of energy transition as financing is cheaper than by private companies – high equity risk premium. German government expert group (Expertenkommission, 2015), where I presented ASFINAG Model, compared it to Public Private Partnerships, found it more efficient and recommended it, partly implemented also in Germany with Autobahn GmbH.

Start with Euro-Med Gas hub, 50 bn Euro

Because of the urgency of replacing Russian gas, the EU should start with a **Euro-Med Gas hub of 50 bn Euro**. The EU provides investment funds to replace inefficient electricity production in the Med countries. The saved oil and gas, is exported to the EU countries which back the Euro-Med Gas hub with state guarantees and pays back the investment in a short time span.

The June 2020 G7 leaders' summit in Germany agreed "to work" on a price cap for Russian oil as part of efforts to cut Moscow's oil revenues. But Russia could retaliate in a tight oil market: JPMorgan's commodity desk notes in a study, that given Russia's strong fiscal position, the country can cut up to 5 million Barrels of production without excessively hurting its economic interest. A 3 million Barrels cut could cause the global Brent price to jump to \$190 Barrel, while the most extreme scenario of a 5 million Barrels cut in production could drive oil prices to a stratospheric \$380 Barrel. So, to avoid a Europe-wide depression, the EU must urgently find additional oil and gas supplies.

Countries in the Middle East and North Africa should be provided by the EU with investment funds to make their gas industries more efficient and

replace inefficient electricity production from gas and oil with more efficient gas or wind and solar power plants. This would also help the relevant EU industries by providing a strongly growing export market.

Selling the saved oil and gas to the EU would pay for the investments in a very short time as the International Energy Agency (IEA) argued in the study “How producers in the Middle East and North Africa can free up more natural gas for exports”. Over a transition period, 3 – 5 years after the pay back, the export income would be gradually switched from the EU to the Med countries. The goal should be to invest this income in regional value chains between the EU and the Med countries, producing wind and solar power but also hydrogen.

Some facts from the IEA study:

“Oil and gas producers in the Middle East and North Africa have been a cornerstone of the global energy system for decades, recently accounting for about 50% of oil exports and 15% of natural gas exports worldwide. As markets tighten due to lost supplies from Russia following its invasion of Ukraine, Middle Eastern and North African producers with a long track record of providing stable energy supplies could play a vital role in averting global shortages.”

“The producer economies of the Middle East and North Africa have various options to increase exports of oil and gas. They can invest in additional upstream capacity and output, which could start producing in a few years’ time. They can prioritise efforts to eliminate gas flaring and methane leaks, which could increase gas supplies by almost 20 billion cubic metres much more quickly. And they can also free up supply by rationalising their own consumption, starting with the power sector.

Currently, oil and gas account for almost 95% of electricity generation in the Middle East and North Africa. Thermal plants in the region consume over 290 billion cubic metres of gas, or more than one-third of its gas production, and 1.75 million barrels a day of oil.”

“There is also considerable potential to replace low-efficiency gas power plants with renewables, which could free up even more natural gas for export and strengthen the region’s infrastructure for the clean energy transition. Renewables currently produce less than 3% of total electricity generation in 9 of the region’s 10 producer economies. (Egypt is the outlier, with renewables accounting for around 10% of electricity generation.) Replacing the entire low-efficiency gas fleet in the region with solar PV would require around 250 gigawatts of new solar PV capacity, an amount that would take several years to deploy, at a cost of

around USD 220 billion. This would free up 150 billion cubic metres of natural gas a year, either to be used in more productive ways or exported. This would generate USD 150 billion per year at current continental European wholesale prices, implying an investment payback period of just 18 months if prices remain elevated and underscoring the low cost of solar PV in the region relative to the high opportunity cost of continued use of natural gas in low-efficiency power plants.”

Conclusion

This would be a win/win for the EU which could get additional oil and gas imports to replace imports from Russia and the Mediterranean countries which would get an upgrade of their gas networks and state of the art gas and renewables power plants paid for in a very short period by the additional gas and oil exports to the EU.

The Mediterranean countries would make strong progress on their clean energy transitions. This could serve as a model also for other regions. One additional goal should be to create an efficient industry for producing the solar cells and wind power plants in this regional EU-Med value chains, as was achieved for the automotive sector in the Danube Area. So, both parties would profit.

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How producers in the Middle East and North Africa can free up more natural gas for exports



Ali Al-Saffar, Energy Analyst

Brent Wanner, WEO Energy Analyst Commentary — 25 May 2022

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Oil and gas producers in the Middle East and North Africa have been a cornerstone of the global energy system for decades, recently accounting for about 50% of oil exports and 15% of natural gas exports worldwide. As markets tighten due to lost supplies from Russia following its invasion of Ukraine, Middle Eastern and North African producers with a long track record of providing stable energy supplies could play a vital role in averting global shortages.

But this near-term increase in demand for oil and gas from non-Russian suppliers contrasts with the need for longer-term structural declines in global fossil fuel use as energy systems transition towards cleaner energy sources. The immediate incentives facing producers amid today's crisis could lead to longer-term investments that are inconsistent with sustainable energy pathways. How can these tensions be reconciled?

The producer economies of the Middle East and North Africa have various options to increase exports of oil and gas. They can invest in additional upstream capacity and output, which could start producing in a few years' time. They can prioritise efforts to eliminate gas flaring and methane leaks, which could increase gas supplies by almost 20 billion cubic metres much more quickly. And they can also free up supply by rationalising their own consumption, starting with the power sector.

Currently, oil and gas account for almost 95% of electricity generation in the Middle East and North Africa. Thermal plants in the region consume over 290 billion cubic metres of gas, or more than one-third of its gas production, and 1.75 million barrels a day of oil. This dominance of fossil fuels in Middle Eastern and North African producer economies makes the emissions intensity of their power generation almost one-quarter higher than the global average.

Natural gas producers are facing calls to provide more supply – and to speed up their clean energy transitions

Of this overall sum, over 150 billion cubic metres of natural gas – around one-fifth of the region’s total gas consumption – is used each year in low-efficiency gas-fired power plants¹, which have an average efficiency² of 30-35%. Combined-cycle gas power plants with an average efficiency of close to 50% could produce the same amount of electricity using about 50 billion cubic metres less gas. Replacing the current low-efficiency plants with more efficient combined-cycle ones would enable the producer economies to save and export that gas, which would generate USD 50 billion if sold at USD 30 per Mbtu – the current continental European wholesale prices.

There is also considerable potential to replace low-efficiency gas power plants with renewables, which could free up even more natural gas for export and strengthen the region’s infrastructure for the clean energy transition. Renewables currently produce less than 3% of total electricity generation in 9 of the region’s 10 producer economies. (Egypt is the outlier, with renewables accounting for around 10% of electricity generation.) Replacing the entire low-efficiency gas fleet in the region with solar PV would require around 250 gigawatts of new solar PV capacity, an amount that would take several years to deploy, at a cost of around USD 220 billion. This would free up 150 billion cubic metres of natural gas a year, either to be used in more productive ways or exported. This would generate USD 150 billion per year at current continental European wholesale prices, implying an investment payback period of just 18 months if prices remain elevated³ and underscoring the low cost of solar PV in the region relative to the high opportunity cost of continued use of natural gas in low-efficiency power plants.

Boosting upstream natural gas production by the same amount (150 billion cubic metres) would require investing more than USD 120 billion across the region. While this is considerably less capital than would be required to scale up renewables, investments in natural gas fields are intrinsically more prone to volatile energy markets and risk becoming underutilised in a future where the clean energy transition gathers pace and demand for natural gas declines. It would also risk prolonging economically wasteful and environmentally harmful consumption of natural gas in low-efficiency power plants. Furthermore, large solar PV projects typically have shorter lead times and can be deployed much quicker than new upstream projects and even expansions of current gas fields.

Major international efforts are needed to ensure that all the world’s regions make progress on their clean energy transitions in ways that are equitable and affordable. Quick deployment of renewables and significant reduction in the use of low-efficiency gas power plants in the Middle East and North Africa would require concerted action not just from the countries concerned, but also from their international partners. Countries looking to reduce their imports from Russia, especially in the European Union, could play a significant role in mobilising capital and investment, for example through the EU’s Global Gateway

initiative. And the returns are potentially huge. The region stands to gain gas export revenues while boosting local economies and clean energy supply chains. That's a deal well worth making.

A more efficient power sector could unlock significant volumes of natural gas for export while advancing the clean energy transition

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