



TRUE GREEN CAPITAL

True Green Capital Management LLC (“TGC”)

White Paper:

IMPACT OF THE IRAN WAR ON US AND EUROPEAN SOLAR POWER MARKETS

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“If you think about the magnitude of the shock coming out of the Gulf right now, you could lose between 5-10 million barrels a day of demand, which will have a significant impact similar to the seventies. The main message is that we’re going to get the energy transition forced on us in a very painful way that’s going to happen very quickly.” Jeff Currie, chief strategy officer of energy pathways at Carlyle Group Inc¹

As the quote above highlights, this conflict ensures that the conversation regarding energy transition - away from legacy fossil fuels and a highly risky and compromised global supply chains - should remain at the forefront of both policy makers and consumer’s minds in the coming years, positioning distributed energy as a key solution to this global paradigm shift.

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Key Takeaways:

- The conflict will likely accelerate the electrification of both the US and Europe, but for different reasons.
- Energy supply uncertainty and price volatility is driving corporates to seek energy security quickly, where distributed solar power projects coupled with batteries is a clear solution.
- The demand for electricity, price stability and supply security could substantially accelerate solar developer US and European power generation project pipelines.

TGC believes that on balance, these trends are hugely positive for distributed energy and solar in both the US and Europe, and continue to highlight the need for quickly deployable, domestically sourced energy. Furthermore, based on the firm's analysis in the balance of this white paper, TGC believes that geographic diversification across several US states, the UK and several European Union member states, will allow investors to capture value under a variety of scenarios of how the war ends and the policy decisions to be made by the US, UK and EU administrations.

Introduction

In this white paper we would like to highlight the broader implications of distributed solar and batteries in the context of security of energy supply.

Recent headlines mainly highlight the price spikes in crude oil and refined products as a major inflationary impact; it is important to understand that the impact differs significantly across different dimensions with assets that appear similar in nature may likely face heightened risk while others may benefit. We address in this paper how different assets in different geographies and markets generally perform differently, where we specifically cover:

- Crude oil vs. natural gas
- US vs. European energy markets
- Electric power vs. transportation
- Precious vs. industrial metals

We should point out that the Iran war is coming at a time when the solar and broader renewable energy sector in general is going through typical commodity-cycle dynamics and is currently experiencing the bottom of the cycle especially in the US.

As a result, the effect is that many US development and asset investments that were made during the 2020–2022 peak years are now under pressure, and many legacy investors are seeking liquidity.

This backdrop is offering a somewhat contrarian opportunity, as we believe that existing distributed solar power generation asset portfolios and pipelines in both the US and Europe will benefit from current geopolitical events. More broadly, distributed energy—particularly solar and batteries—should be among the long-term winners. We also believe that current distressed asset portfolios coming to the market for sale on both sides of the Atlantic present compelling opportunities for long-term investors.

Crude Oil vs. Natural Gas

Crude Oil

As a result of the Iran conflict, crude oil prices practically doubled from 2025 lows while remaining volatile throughout the various fits and starts of ceasefire negotiations, with no clear end in sight. This has had a significant inflationary impact that will continue to cascade across the global economy. By way of reminder, beyond transportation, crude oil has several important secondary uses including petrochemicals (plastics, rubber, detergents and solvents, etc.), with diesel fuel powering various agricultural and heavy equipment users.

However, crude oil is rarely used for power generation and therefore at a high level its direct impact is not significant for the US and European power generation markets. However, we expect that the inflationary impact and associated price volatility will increase the cost of capital across the board, and as such for potential returns to increase over the next 12-24 months.

Natural Gas

Power generation is impacted significantly across the world by natural gas, which in many geographies is the marginal fuel along with coal during certain hours of the day.

Qatar is a major exporter of natural gas in the form of Liquefied Natural Gas ("LNG"), corresponding to ~20% of world production with a significant part of its exports covering the European and Asian markets¹. The United States is another major producer, corresponding to ~25% of world production². Other producers include Australia, which covers the Asian markets and Russia whose natural gas used to cover the European markets, but has been largely curtailed due to sanctions imposed for the Ukraine war.

Unlike crude oil whose transportation is very fragmented across many ports and vessels, natural gas is very concentrated as it is exported through a handful of very specialized infrastructure assets, including LNG terminals and specialized LNG ships. That feature makes LNG particularly prone to infrastructure disruptions. As a result, the disruption to Qatar's infrastructure combined with its limited ability to ship through the Strait of Hormuz has created spot price spikes in the European (up ~60%)³ and Asian (up ~140%)⁴ markets in the short term. It is important to note that the US, which has some of the world's largest natural gas reserves, will likely not be able to bridge the production gap as its LNG terminals are already largely contracted.

As a result, and because continued infrastructure damage in Qatar, it is likely, even in a scenario that the Iran war ends quickly, that elevated global natural gas prices will persist for several quarters, possibly including volume scarcity. This is a very different dynamic vis-à-vis crude oil, which was oversupplied before the conflict and can revert to oversupply quickly should the conflict end.

However, these dynamics will play differently in the US vs. Europe.

1. <https://www.reuters.com/business/energy/qatars-role-global-gas-market-2026-03-19/>

2. <https://www.reuters.com/business/energy/us-sets-new-lng-export-records-banner-year-marked-by-new-capacity-2026-01-02/#:~:text=The%20Reuters%20Power%20Up%20white,paper.and%20Partners%2C%20said%20on%20Friday>

3. <https://tradingeconomics.com/commodity/eu-natural-gas#:~:text=Gain%20Since%202021->

European%20natural%20gas%20futures%20fell%20to%20%E2%82%AC53.6%20per%20MWh,of%20a%20deeper%20supply%20disruptions.

4. <https://www.reuters.com/business/energy/iran-war-damage-qatar-hits-global-lng-outlook-upends-asia-demand-growth-2026-03-26/#:~:text=LNG%20PRICES%20SOAR%20ABOVE%20ASIAN,of%20LNG%20Insight%20at%20Kpler>

US vs. European Energy Markets:

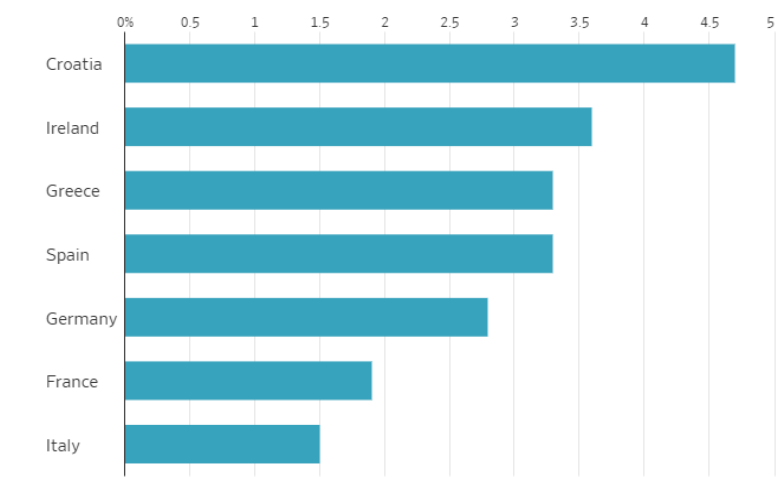
US

The US is currently the largest producer in the world of both crude oil and natural gas.

US crude shale oil producers, with drilling costs in the \$50-70/barrel, will benefit significantly from the current \$80+/barrel oil prices. Should the war and/or risk premium persist, we expect to see additional capex and production coming online that will benefit US companies as a volume multiplier and would create a small economic boom in states with large oil production such as Texas.

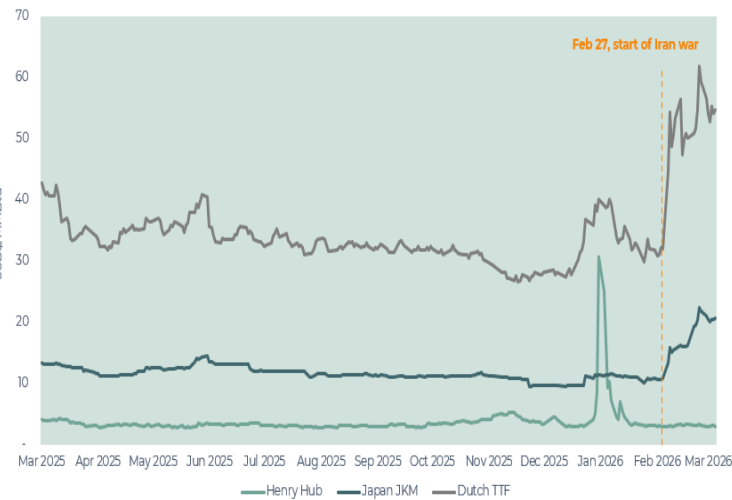
On the other hand, prolonged higher crude oil prices will reignite inflation across the US, due to increased transportation costs globally on supply chains. This is specifically relevant in the US as American consumers tend to drive longer distances with less fuel-efficient cars than their European counterparts, who tend to use public transportation and have a higher penetration of electric vehicles (we will talk about the impact on the price of electricity later in this note). Even though various economic commentators and politicians shrugged off price increases in the first few weeks of the war, many are now talking about prolonged stagflation in the event that the war lasts several more quarters. We have already seen meaningful spikes in European inflation data, see the chart below.

March inflation in eurozone countries¹



The US differs significantly from Europe when it comes to natural gas. The US has vast natural gas reserves and only limited LNG export capacity given it is already largely contracted under long term contracts². As such, increases in global natural gas prices only impact the US marginally. Domestic demand increases (due to data centers) and weather conditions are a much more important driver for US natural gas prices. As you can see from the chart below, the recent January 2026 move in Natural Gas prices was driven by seasonally cold weather and related supply shocks, versus little to no movement following the Iran conflict. Approximately 12% of US Natural Gas production is exported.

Comparison of US, European and Asian natural gas prices³



Given that natural gas is the marginal producer and price setter in the US (along with locally produced coal for certain hours of the day in certain states) we do not expect to see significant and prolonged impact on US power prices.

Sources: 1. Eurostat. Note annual rate of growth for the harmonised index of consumer prices. 2. Approximately 12% of US Natural Gas production is exported. 2. S&P Global and US EIA data as of YE 2024. 3. Investing.com and U.S. Energy Information Administration; S&P Global and US EIA data as of YE 2024.

However, on a policy level, the conflict in Iran highlights overall security of supply concerns which should continue to lead to increased demand for locally produced solar power with batteries, which has no input fuel volatility and is decoupled from global geopolitics.

Europe

On the other hand, Europe presents a completely different environment. As is the case in the US, natural gas is the price setter in many European countries (France is an exception due to its significant nuclear power generation fleet).

Much of the European supply is imported and partially comes from Qatar, and therefore we expect power prices to stay elevated and possibly stay higher for many quarters if not years. It should be noted that the situation has been further exacerbated by the successive heat waves in Europe that demand higher use of air conditioning and therefore power generation and ultimately natural gas, with natural gas storage as of July 2026 standing at 53.7% versus ~70% for the July average¹. In that context, beyond the energy security and price volatility points that we mentioned earlier, distributed solar with batteries is bound to become the chosen technology for most of the future power generation needs. We also expect that many industrial power users will move quickly to implement distributed solar (which can be built in months) to avoid the current price (and possibly volume) disruption.

Finally, it is notable that natural gas is also used for fertilizers. Depending on the location of production, certain fertilizer prices may increase significantly, potentially pushing up food inflation globally. Based on this discussion on the US vs Europe, and the fact that fertilizers can be shipped globally, TGC would expect that this is constructive for US based manufacturers and would penalize European and Asian ones.

In that scenario, we expect such fertilized production disruptions to promote novel distributed industrial gas production technologies that could be fueled by distributed solar power plants.

Electric Power vs. Transportation

It is well-understood that gasoline/petrol price increases will impact transportation costs while natural gas prices have no impact on gasoline/petrol-powered cars. It is our thesis that electric cars (electric power priced ultimately by natural gas or renewables) will become significantly more attractive, in the US as well Europe but for different reasons.

Based on our US vs. Europe perspective, it is highly likely that electric cars in the US become more attractive relative to their gasoline/petrol powered peers (i.e. relatively lower electric prices to elevated gasoline prices). Also, one might conclude that higher power prices in Europe could make electric car transportation equally unattractive to gasoline / petrol cars. However, one must take into consideration that, unlike the US, a significant portion of the existing European power system is powered by renewables, which results in very low or even negative power prices for certain hours of each day. Such renewable power, combined with batteries, provides for a low-cost power source, relative to gasoline or natural gas produced power, to charge electric vehicles.

The net result is that this conflict will tip the scale further into electrification of transportation and makes the argument stronger for distributed solar coupled with batteries, in order to lower the overall cost of transportation.

Precious vs. Industrial Metals

One might ask how are metals related to fuels and renewable power and how do they impact power generation asset portfolios?

As a starting point, much of the content of a solar power plant is some form of metal, steel or aluminum, copper, silver, silicon etc. and therefore metal prices have an impact on plant capex. All metals have energy content related to their extraction and transportation. The larger the volume that has to be transported, the larger the cost increases due to the crude oil content involved in transportation. In that context gold will be impacted very differently to copper which is being used at much larger volumes.

Aluminum has a high electricity content and is lightweight compared to copper, making it an effective transporter and store of electricity¹. That is why aluminum smelters are built close to cheap and abundant sources of energy such as Iceland, Quebec in Canada (hydro power) and UAE (natural gas). The Middle East is responsible for ~9% of world aluminum production and has been impacted in two ways: 1) exports have been largely curtailed and 2) production facilities are being targeted. For example, a large aluminum smelter in the UAE producing 1.6 million metric tons annually, has been deemed inoperable due to Iranian strikes². The full scale of the damage is not clear, but it is of note that for fundamental smelter operational technical reasons, it will take many months to restart production once an aluminum smelter stops.

Therefore, TGC is seeing price increases in industrial metals, which has an inflationary impact across the economy both in the US and Europe. It is notable that precious metals are decoupling from industrial metals for the same underlying reason: inflation. As US rate cut expectations are dissipating and treasury yields are going up, precious metals are going down

(they do not offer a coupon the same way as US Treasuries). This dynamic is even in the context of geopolitical uncertainty.

For solar the impact is a secondary one. In a prolonged conflict scenario that includes continuing uncertainty around passage of the strait of Hormuz, we would expect further industrial metal inflation. As a result, we expect higher capex for future solar projects in the form of both increased panel pricing, racking, and inverter pricing. We are also closely watching labor pricing, which in some markets can make up to 40% of total solar project costs. In a stagflationary environment, we would expect labor prices to adjust downward and potentially offset any increases in equipment costs.

Another factor worth highlighting is the “domestication” of the US solar industry, largely in response to both the Inflation Reduction Act (“IRA”) and corresponding domestic content Investment Tax Credit adders, and the Trump Administration’s policies, including tariffs for most offshore equipment and along with accelerated depreciation rules for domestic manufacturing. This has stimulated significant growth in domestic panel, racking, and battery facilities, which, in some cases, is priced competitively with foreign-made sources. This should help to blunt the impact, at least in the US, of significant inflation with regards to equipment.

Impact on interest rates

As noted above, the likelihood of sustained US rate cuts has reduced significantly, and we would not be surprised to see a rise in interest rates over the next 12 months in the US or in Europe. At a macro-level, this could have a substantial impact on those governments who are running large public debt balances and therefore have a reduced ability to support their economies in a stressed or stagflationary market environment.

1. <https://yajialuminum.com/electrical-conductivity-of-aluminum/#:~:text=23%20October%2C%202025,purity%20aluminum%20exhibits%20maximum%20conductivity>.
2. <https://www.reuters.com/world/middle-east/emirates-global-aluminium-reports-significant-damage-iranian-strikes-2026-03-28/>

Summary

To summarize TGC's perspective on the expected impact to the broader energy markets:

- Europe should experience higher electricity prices in the short to medium term.
- The US would be insulated from electricity price shocks, but elevated gasoline prices could move the US towards more transportation electrification.
- Security of energy supply will be front and center for every large energy user across markets in the US and Europe, which is positive for distributed energy broadly and solar coupled with batteries in particular.
- There likely will be some inflation in solar power plant capex from rising material costs and transportation expenses, but we feel these will be negligible in the US and offset by higher energy pricing in Europe.

While it is difficult to predict the next moves of Iran or the US administrations, we hope that diplomacy will prevail. We feel strongly that, regardless of the nature and timing of the outcome, there will continue to be an “energy security” risk premium for the foreseeable future where investment firms are well-placed to reap the rewards for their investors.

True Green Capital Management LLC

True Green Capital Management LLC (“TGC” or the “Firm”) is a specialized renewable energy infrastructure fund manager with a focus in distributed power generation in the US and Europe. The Firm is international with offices in Westport, Connecticut in the US and London in the UK and an investment focus across the United States and Europe.

Founded in July 2011, TGC is led by a team of professionals with a proven track record and a demonstrated capacity to originate, finance, construct, and operate distributed renewable power generation projects.

TGC believes the demand for power, the continued increase of power prices, decreasing entry costs of distributed power generation technology and the efficiency of creating and delivering price-competitive electric power at the source will continue to lead to compelling investment opportunities which provide a stable cash flow stream with low correlation to the broader markets.

TGC is currently focused on investing in the US, the UK and the EU, which account for a notable portion of the approximately \$1.5 trillion global distributed power generation market, with an emphasis on the sub-utility scale solar power segment¹. Thanks to power industry deregulation combined with rapid advancements in technology, the economics of distributed power generation, including solar and batteries, are now competitive with traditional electricity generation sources. In many US states and key European jurisdictions, it represents one of the few sources of new power generation infrastructure that can be added to the power network quickly, reliably, and cost efficiently.

To date, TGC has invested into a distributed solar power generation portfolio across 18 US states, the United Kingdom and France, delivering clean, renewable energy. US states include California, Colorado, Connecticut, Delaware, Idaho, Illinois, Maryland, Massachusetts, Minnesota, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, and Virginia.



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