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Oil and gas exploration and production:

New paths to relevance —and profitability

For most of the past 160 years, the oil and gas industry's exploration and production (E&P) players earned outsized economic rent for finding new resources and making them economically viable for production.

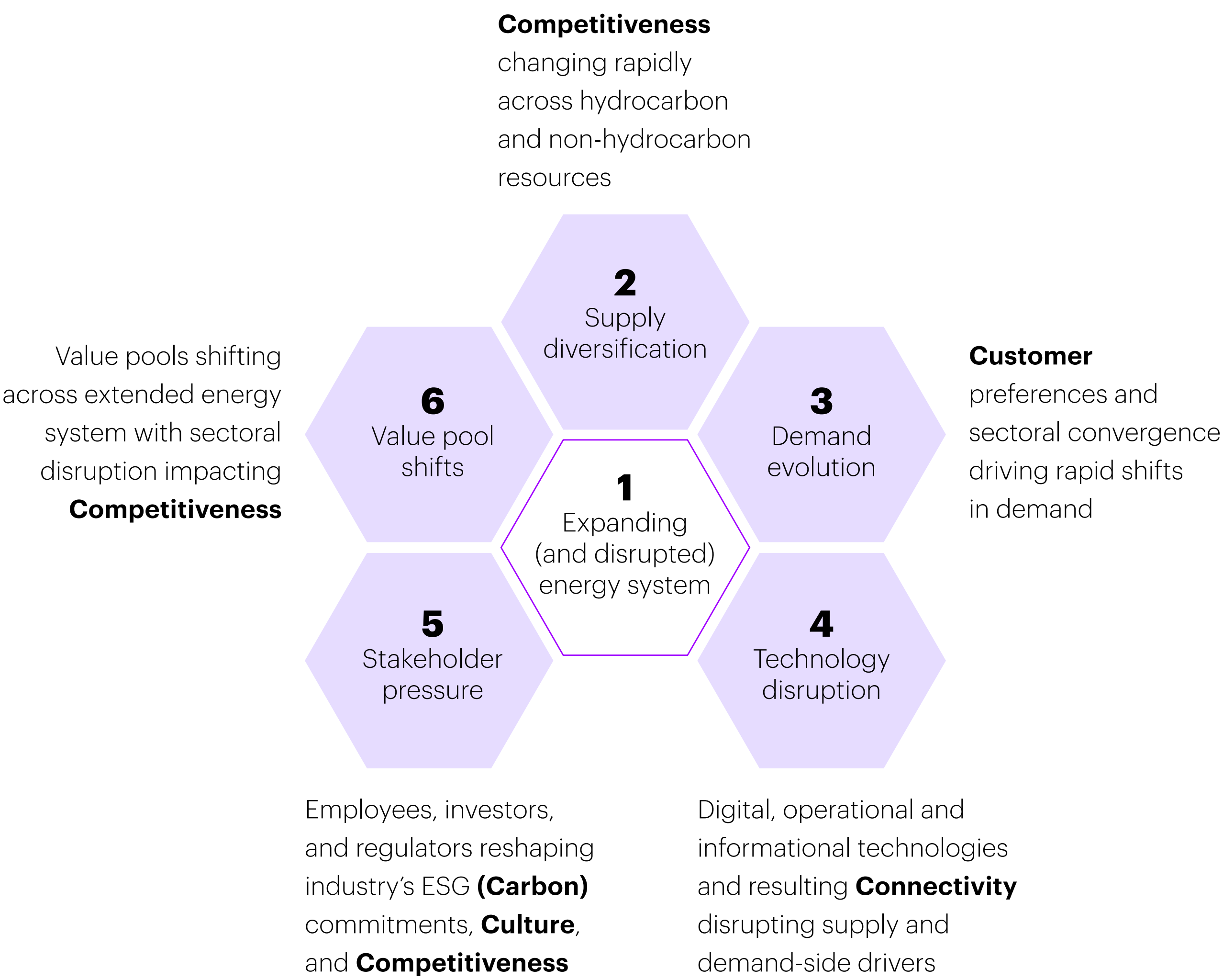
This was possible because of the perceived scarcity of oil and gas; for years, demand expectations for hydrocarbon products far exceeded their likely supply.

Today, E&P companies live in a completely different world. It's a world characterized by compressive disruption (see Figure 1). Low commodity prices, an overabundance of oil, and returns on invested capital (ROIC) that are lower than the weighted average cost of capital are just some of the challenges that have brought operators to their day of reckoning.

As they contemplate their next moves, E&P companies might be pleased to learn they have more options than they realized. But less time than they thought to make their choice.

Figure 1.

The energy industry is facing pressure from six directions



The future is not where you think it is

Oil and gas are the most important sources of energy today.

That's not changing anytime soon. In fact, fossil fuels are expected to provide close to 50 percent of the energy mix in 2050.[1] What will change, however, is the manner in which future oil and gas operations will be funded. Access to capital is becoming ever more restricted. Demand for hydrocarbons is no longer enough to guarantee healthy investor returns.

In this environment, oil and gas companies need to redouble their efforts to convince investors they are worthy. Most see only two paths to profitability. The first involves continuing to operate as they have in the past—but with some significant changes. Companies on this trajectory will need to maximize their asset efficiencies, capture CO_2 and methane emissions, and reduce energy intensity and waste from their operations. Such actions are appealing to investors because they can help reduce direct emissions by 80 percent and strengthen agility.[2] Importantly, these players will also need to reset their operations to be more market-centric. This means adopting a "production system" view that connects various areas across the value chain—from exploration to marketing—to best manage market volatility and attract investor interest.

The second path companies envision takes them away from their core business altogether, toward electricity-linked energy.[3] These companies see the 50 percent decline in fossil fuel consumption by 2050 as a catalyst to abandon oil and gas. They are succumbing to compressive disruption, abandoning bad debt, and looking for alternative sources of value. As they contemplate sunsetting their oil and gas operations, the move to renewables holds particular allure.

The truth is that resetting or sunsetting their oil and gas capabilities are not the only options for E&P companies. There is a broad middle ground of potential profitability—and renewed investor interest.

The case for specialization

Long-held conventional wisdom suggests that diversification is a wise move—a way to hedge one's bets against risk.

The oil and gas industry illustrates the limits of that reasoning. For years, companies diversified their asset portfolios, their locations of operation, and even their value chain capabilities to capture value when and where they could. That model rarely works anymore in oil and gas.

Investors today expect profitable returns—not just in some areas of a company's business, but all. There are very few companies that can excel in everything; the complexity and cost associated with trying is simply too high for most. In an environment driven by access to capital, companies need to be strategic and precise in determining what they want to be known for, where they want to play, and how they will achieve top-tier performance.

Demonstrating that they are reliable stewards of capital might mean spinning off asset classes or business lines that are burdened with bad debt. Or it could mean zeroing in on the few (or even just one) activities, asset classes or geographies in which they excel. Moving to a specialized model may not be an appealing proposition for integrated oil and gas companies that have spent decades building their companies and expertise in a variety of areas. But the financial transparency that capital markets now demand will likely require it.

A look at other capital-intensive industries such as automotive, heavy machinery and aerospace shows that their evolutions are characterized by a shift to specialization. The same will happen in the oil and gas industry. Actually, it already has. It was the need for specialization that led to the creation of upstream, midstream and downstream businesses. And, whether they admit it or not, companies that have shed bad debt elements, such as onshore assets in the late 1990s, have become de facto specialists in the management of assets that remained.

Now, that trend is poised to continue its natural progression with a further split of asset portfolios, markets, operating models and upstream businesses into their constituent value chain elements. In fact, there's little way to stop it.

Returns, not reserves, are hiding in plain sight

To succeed in the new energy world, E&P and other upstream companies will have to fundamentally question their approach to creating value.

As the importance of exploration and appraisal recedes, they will need to adopt a "winner take all" mindset in well-defined areas of specialization. We see four new pathways opening up four new futures for today's E&P players:

Value chain specialists

The E&P value chain as it currently exists is simply too complex for most companies to manage effectively—and profitably. Solid performance and financial returns in one value chain function are too often offset by losses in others. It doesn't have to be this way. E&P leaders of the future will identify and then jettison the weak links in their value chain. They'll then have the opportunity to build new business models from what remains.

Some, for example, might engage in capital projects targeted at developing existing or new fields in their portfolios. These specialized **developers**—which may resemble today's engineering, procurement, and construction (EPC) companies—will be measured on their ability to deliver these projects in a lean and efficient fashion, on time and on cost. There will likely also be **producers**, setting themselves apart by maximizing production from a set of wells in a field. These specialists will ringfence their market share by optimizing all aspects of an integrated production system. There's no reason that both developers and producers can't further specialize in greenfield or brownfield opportunities. And then there will be the **marketers**—those responsible for not only managing the inventory of crude and natural gas, but also sending the right molecules to the right end use at the right time to capture the most economic rent.

Asset class specialists

It's extraordinarily difficult—and costly—to be an expert in multiple asset types. Each requires unique skills and specialized knowledge. Also, deepwater, shale, oil sands, conventional onshore and shallow offshore calls for different kinds of technological proficiency. Even operating models from asset class to asset class are distinct. Efficiency is the name of the game for short-cycle manufacturing models in shale, for example. Deepwater, on the other hand, calls for technical intensity and medium/long-cycle models.

E&P companies have the chance to stake their claim in the asset class in which they can dominate. By scaling their asset-specific operating models and technologies, they could dramatically lower the cost of supply and entice investors with higher returns. Like producers and developers, they, too, could further specialize in generating value from greenfield or late-stage brownfield opportunities.

Geographic specialists

Regional differences in the field of oil and gas exploration and production abound. These differences, which can apply to unique basins, as well, range from the geopolitical to the geological to the geophysical. Even logistical and infrastructure challenges are never the same. Today, E&P companies often strive to excel in multiple geographies or basins. That stretches them quite thin. The cost of complexity takes its toll.

There's little economic incentive to maintain that model today. Instead, E&P companies should consider leveraging their on-the-ground knowledge or operations in select regions or basins. Those that can build specialized team, infrastructures, logistics capabilities, and possibly even establish shared hubs of expertise will be the ones to lower breakeven costs in the years ahead.

Ecosystem specialists

Once operators have determined their areas of specialization, it is likely they will seek out partners that are well positioned to carry out certain tasks. The pharmaceuticals industry has moved toward this model, with the manufacturing of therapeutics now often managed by a third party.

As E&P companies specialize, there will be a need—and opportunity—for ecosystem specialists that can create and leverage a shared pool of oilfield assets, equipment and other resources. This supporting role—which is similar to that provided by oilfield equipment and services companies to multiple operators in the same vicinity—will become a specialization in and of itself. These specialists will be essential players in lowering costs and reducing latency in the energy system. As such, the value they deliver will be amply rewarded.

The risk-return profile of each of the above pathways is quite unique.

Markets, which may encourage the breakup of integrated upstream companies into these specialty pure plays, will assess each company against benchmarks corresponding to its new business model. For upstream companies that remain integrated and follow all pathways above, investors will demand greater transparency. And they will expect returns that are higher than what they can generate by investing in individual pure plays.

Not so fast

E&P companies won't transform into specialists overnight.

They will need to think carefully about which pathway(s) makes the most sense—operationally and financially. Different company types across different geographies will have different incentives and motivations to transition or not. And their stakeholders, whether governments or individual investors, will want returns commensurate with the risk they are assuming.

Regardless of the future they choose, E&P already need to start thinking of how they will operationalize their transition to a new, specialized business model. There are five things every company needs to get right before they embark on their new path:

01

External positioning

Once E&P companies make their strategic decisions and start migrating to a specialized business model, they will need to effectively communicate that change—and the financial reasons underpinning it—to their stakeholders. Investors, in particular, will need to be assured that the move will earn greater economic rent and set the stage for long-term viability. The case for change must be solid and compelling to attract the capital that is needed.

02

Transparency

Every E&P company should strive to achieve greater transparency in all that they do. Markets demand it. And companies benefit, too. Advanced analytics enable them to gain valuable, granular insights that not only identify areas of greatest opportunity, but also lead to better, faster and defendable decisions.

03

New ways of working

As E&P companies consider their options for specialization, they should challenge the orthodoxies of their legacy operating models. This means identifying activities that create little value and reimagining how they are carried out. Can tasks be automated? Digitally enhanced? Outsourced? Transitioning to a pureplay model will be easier if operations are managed as efficiently and cost effectively as possible.

04

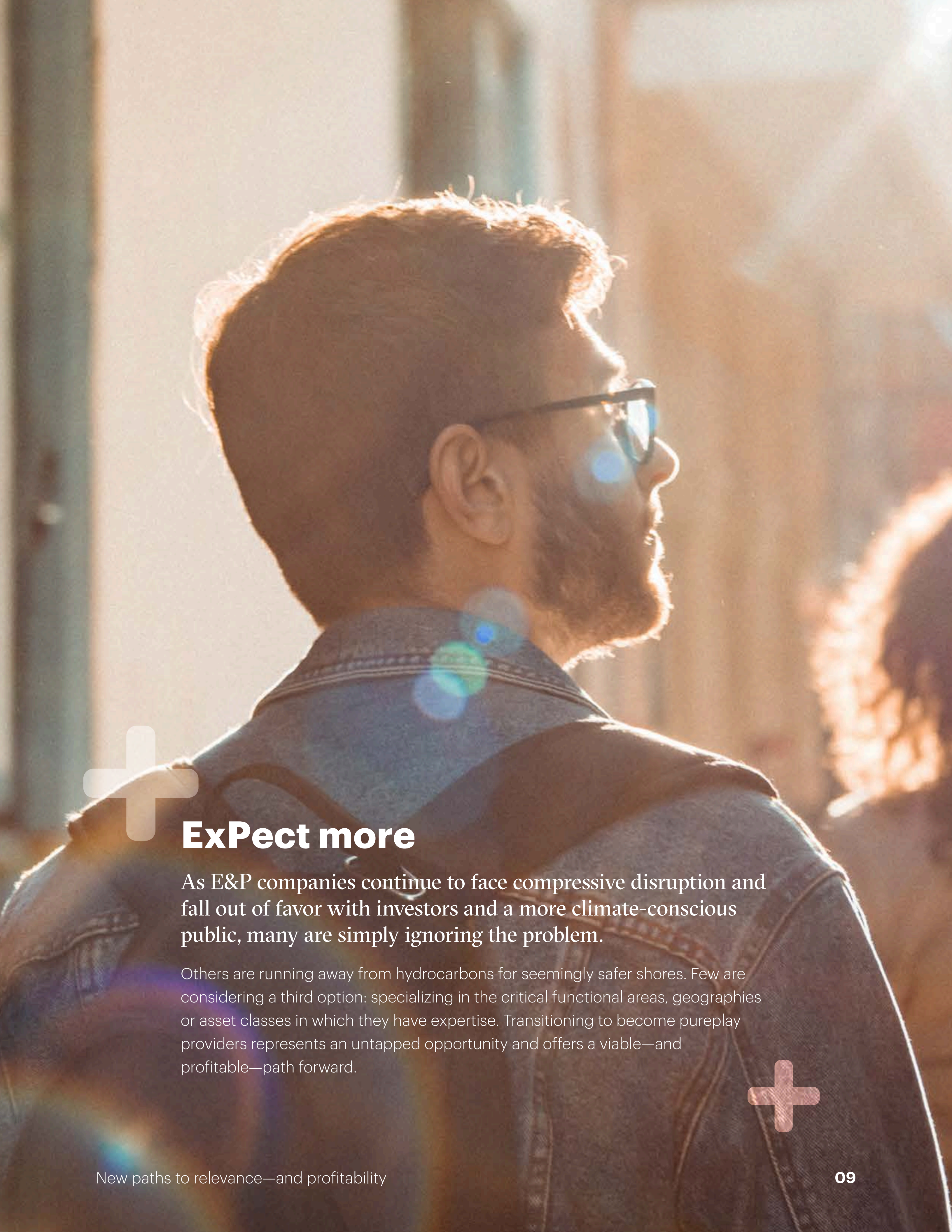
Capital and corporate structures

The different pureplay options open to E&P companies require different capital and corporate structures. Developers, for example, might best be positioned in public markets. Ecosystem specialists, on the other hand, may choose to operate as private enterprises. Owner-operators, joint ventures and partnerships are all possibilities.

05

Talent

An important component of any new intelligent operating model is talent management. New skills, capabilities and roles will be needed. Recruiting, hiring and training will all be different. Remote working, too, must be considered part of the workplace strategy moving forward. Having all these elements in place from day one will be critical.



ExPect more

As E&P companies continue to face compressive disruption and fall out of favor with investors and a more climate-conscious public, many are simply ignoring the problem.

Others are running away from hydrocarbons for seemingly safer shores. Few are considering a third option: specializing in the critical functional areas, geographies or asset classes in which they have expertise. Transitioning to become pureplay providers represents an untapped opportunity and offers a viable—and profitable—path forward.

Authors

Muqsit Ashraf
Senior Managing Director
Lead – Energy Industry Sector

Herve Wilczynski
Managing Director
Strategy & Consulting,
Energy Upstream Lead

Manas Satapathy
Managing Director
Strategy & Consulting, Energy

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