

# A Race to the Bottom and Back to the Top: Taxing Oil and Gas During and After the Pandemic

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October 2020

# ‘Winning’ a race to the bottom, but losing the race to the top?

Earlier this year as people around the world responded to the coronavirus pandemic, their demand for oil tumbled. At the same time, OPEC and Russia initially failed to agree to coordinate supply cuts. Consequently, the price of a barrel of Brent crude oil fell from \$60 in December 2019 to \$20 in April 2020. As of this publication, the price is \$43.

If the price stays low, and if oil executives expect the price to remain low, companies may lobby governments to reduce taxes and other costly regulations. Payments to governments are often larger than costs for a company, so there is pressure on governments to reduce taxes to keep projects viable.

## Key questions

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**1** Where will the oil price go next?

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**2** What is the impact on currently operating projects, undeveloped projects, and those that are yet to be discovered?

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**3** How should governments respond in changing oil and gas taxes?

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**4** Will governments try to “race to the bottom,” but then lose a race back to the top?

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# Key messages

1. There's no certainty over future prices. Some rise is likely in the next few years, even if an energy transition results in a structural decline in the oil price in the longer-term. Governments must consider this uncertainty and probable rise when taxing oil and gas.
2. Tax breaks on most currently operating projects are likely a waste of public money.
3. Some governments may be pressured into reducing tax on projects awaiting development. But they must identify which projects would become viable with lower taxes, and which do not need a tax break.
4. If in doubt, governments should consider whether a project that needs a tax incentive really will provide value for the country. For most countries, relative to total oil and gas produced, the production from projects that could be delayed or cancelled is small. But not so for the "new producer" countries like Senegal and Guyana.
5. Changing taxes to make a country more attractive has the most impact before companies have invested – e.g., in attracting investment in licensing rounds.
6. But setting low taxes now could force a government to raise taxes later if prices rise again.
7. If a tax break is unavoidable, governments could use a "sunset clause" to limit the duration of the tax break.
8. Ideally, governments should set progressive tax regimes that respond to changes in profit.
9. But as many taxing authorities struggle to measure profit, governments could set simpler tax regimes based on sales revenue or prices – but must prepare to change tax rates in the future, and be prepared for the repercussion for a government's credibility with investors.
10. Governments should disclose contract terms detailing tax changes, tax exemptions, incentives and estimated break-even prices of projects to help government auditors, local think tanks, and the public check and support tax policy decisions.

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# Price forecasts: A consensus that the price will rise, but by how much?

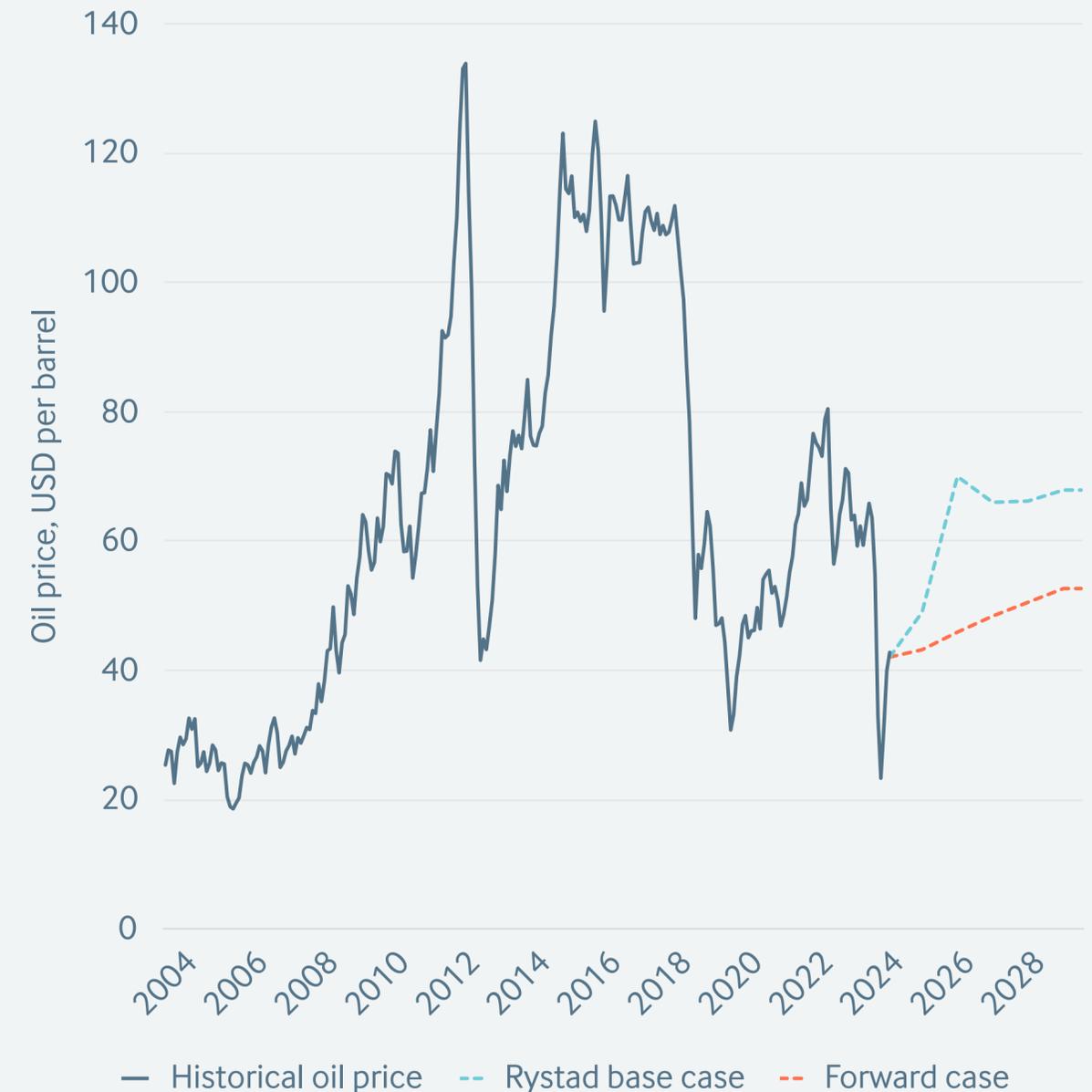
The aggregate view of the world's oil outlook represented by the Brent futures price—suggests a gradual increase to just above \$53 by 2025, but individual opinions vary substantially.

A survey of oil companies showed on average that they expect the price to rise to \$65 by 2025, although they also differ in their views – from just under \$55 by BP, to \$78 by Equinor.<sup>1</sup>

One extreme is JP Morgan's view that by 2025 the price of oil will be \$190, though the bank suggests that in the longer run such a price is unsustainable.<sup>2</sup>

While opinions differ, some rise in the price seems likely. Oil fields last 15 to 30 years on average.<sup>3</sup> To keep up production, the oil industry has invested \$650 billion a year over the past decade in finding and extracting oil and gas. In 2020, the industry may spend a third less—\$132-142 billion—than in 2019.<sup>4</sup> If the pandemic subsides enough to allow consumers to become more active, higher prices are likely, particularly given the declining investment in recent years.

Brent oil price, historical and projected



Source: Rystad Energy UCube, Infomundi.

## Price forecasts: A consensus that the price will rise, but uncertainty over how much

What OPEC and Russia do also matters. The severe drop in the oil price as countries locked down was partly the result of OPEC and Russia deciding to maintain, rather than cut production levels. Similarly, how this group behaves in the future will help determine prices then too.

Even if the price rises in a few years, the long term is even less certain as major economies transition to using lower carbon energy. If this transition is sufficient to keep global warming below 2 degrees, and in turn limit oil and gas consumption, then the long-term price of oil could be somewhere in the \$40s.<sup>5</sup> BP assumes the long-term price will be \$55.<sup>6</sup>

There are a lot of “ifs.” Fundamentally, government officials face uncertainty. So what can they expect over the next few years, and specifically how should they tax oil projects?

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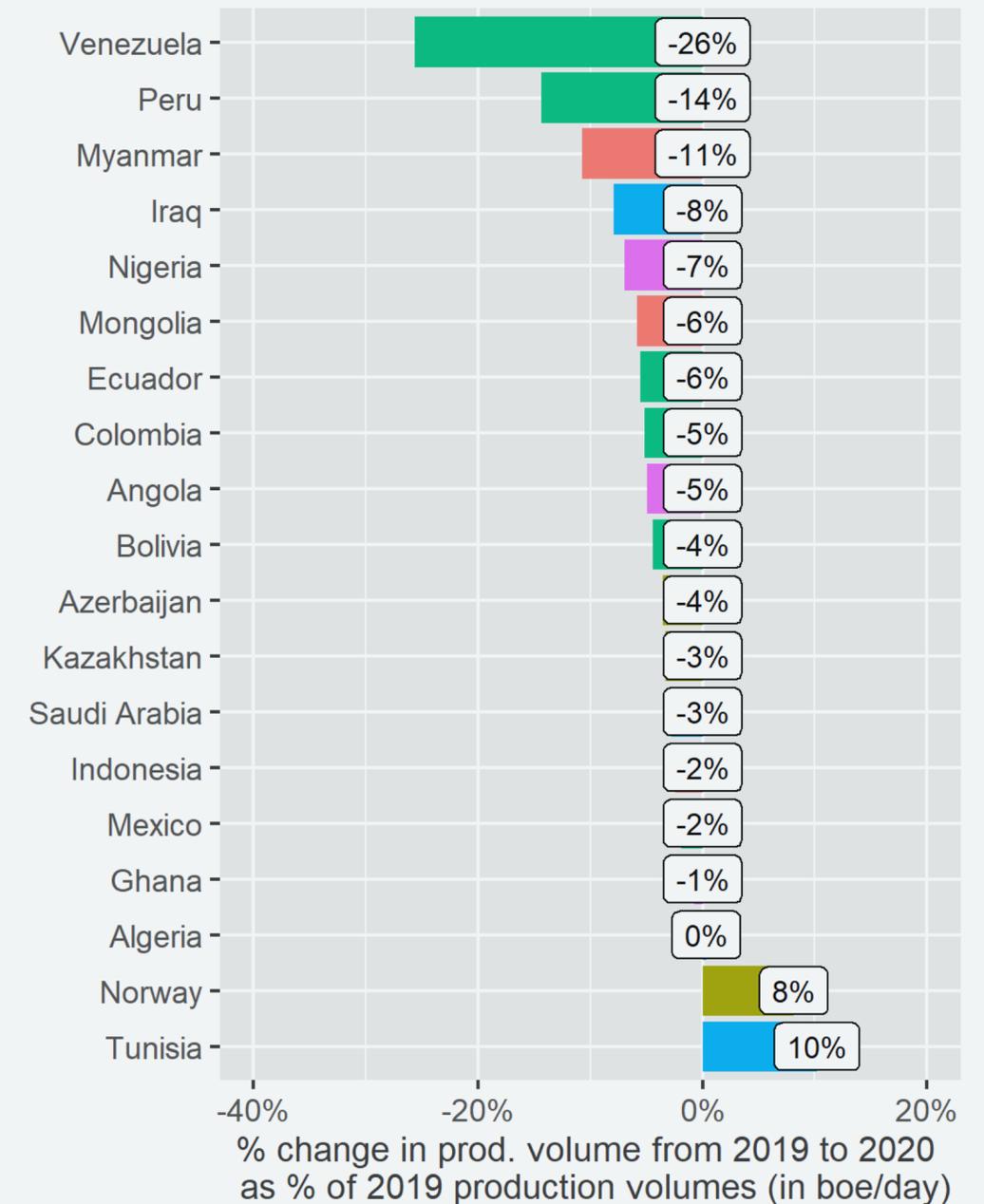
# Currently operating projects: Probably don't need tax breaks

It is unlikely that most projects already developed and producing should need a tax break. As long as a company's operating costs per barrel are less than the price they sell for, it makes sense to keep producing. Even if total costs are higher than price, companies can at least make some money to pay off some of their debts, even if they do not make a clear profit.

We've selected 19 countries that are oil-rich, oil-dependent, or developing new oil industries to illustrate the impact on the global industry. Among these, while there are a few projects that have shut down, some citing high costs and workers' health<sup>7</sup>, and despite recent OPEC+ deals, Rystad Energy forecasts production volumes will barely drop in 2020.

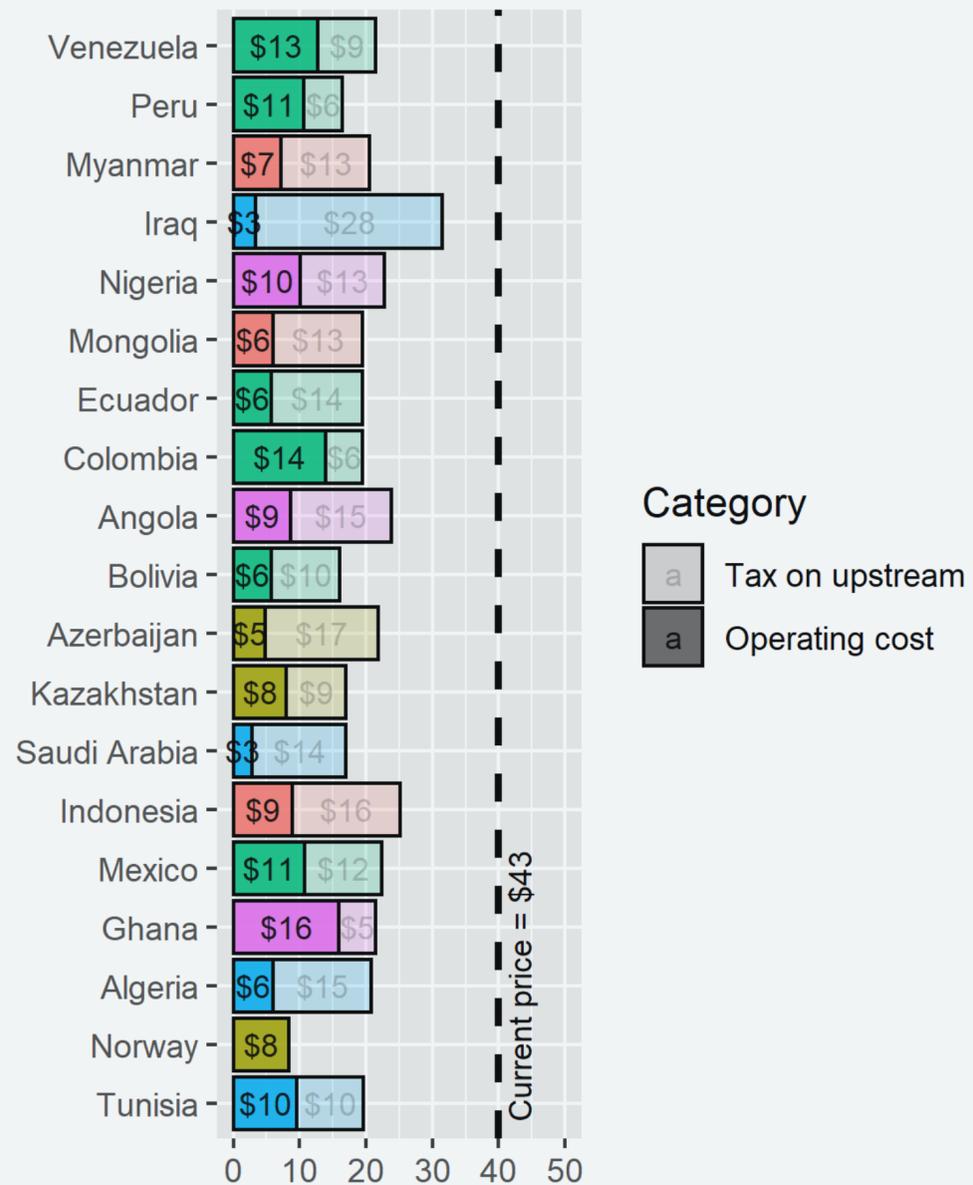
This is no surprise. According to Rystad estimates the average operating costs across the countries shown in the chart are still far below the oil price. In most cases, there is no need for a government to reduce taxes.

Change in production from 2019 to 2020



Source: Rystad Energy UCube, NRGJ calculations

### Average operating costs and government taxes on upstream per barrel (2020 estimates)



Source: Rystad Energy UCube, NRGi calculations

Further, over time costs typically fall with prices either as part of exchange rate changes or companies' becoming more efficient.<sup>8,9</sup> Typically oil fiscal regimes are progressive to some extent, meaning the fiscal burden rise as project profits rise, and vice versa. This means that many projects can survive low prices longer than might otherwise be the case. Although fiscal regimes that are comparatively less progressive, or even regressive, could impose a tax burden that forces a project to close.

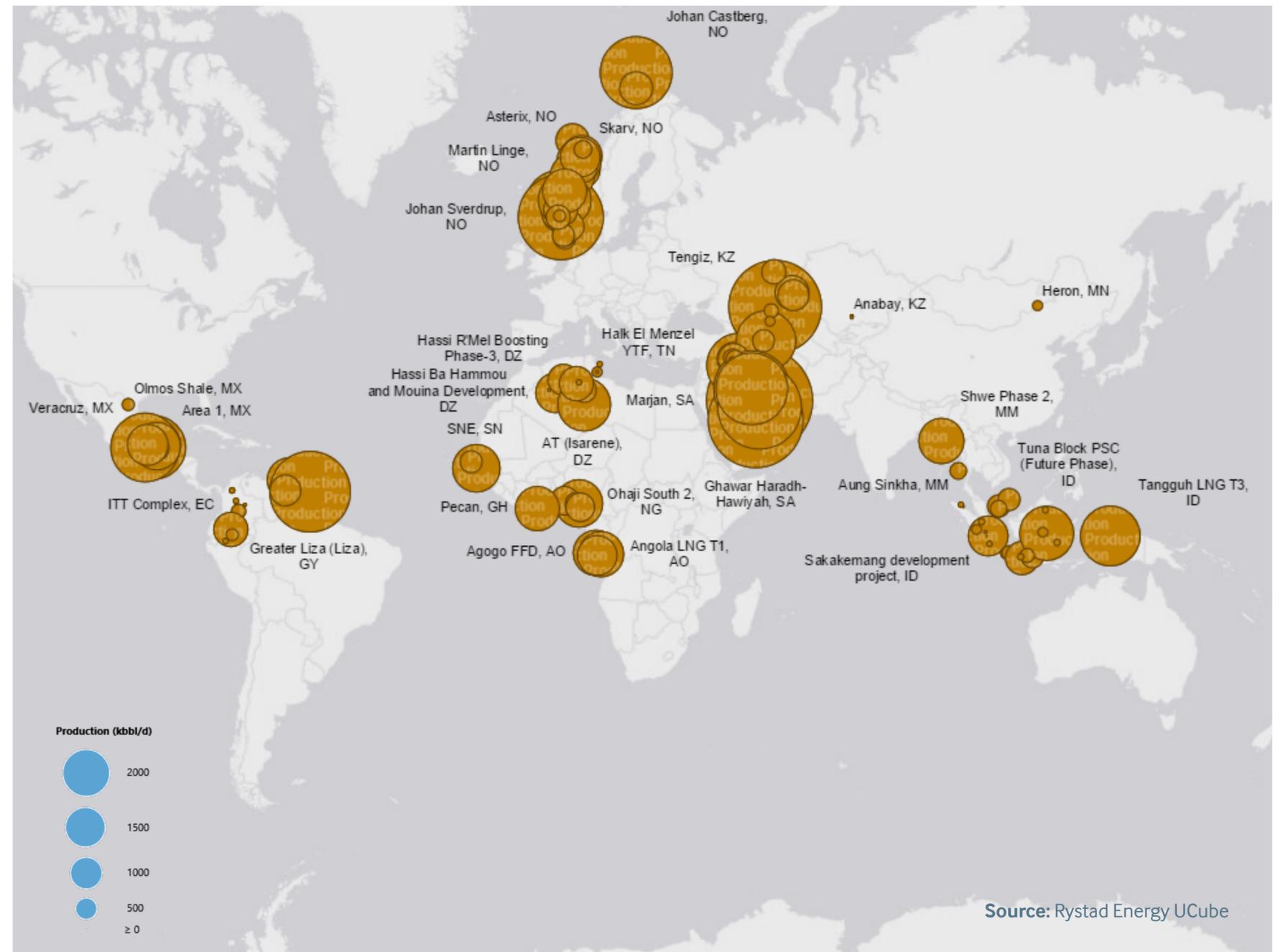
A tax break to a high-cost project might ensure the country maintains production – which might be a government goal – but it hardly benefits government revenue since it won't be making any profit. Further, knowing with certainty which projects are high-cost is difficult. If governments do give tax breaks to operating projects, they should ensure they cancel tax breaks when prices rise again – perhaps using sunset clauses.

Projected production of oil & gas projects to be developed in next five years

# Discovered but undeveloped projects: Delay, redesign or lobby?

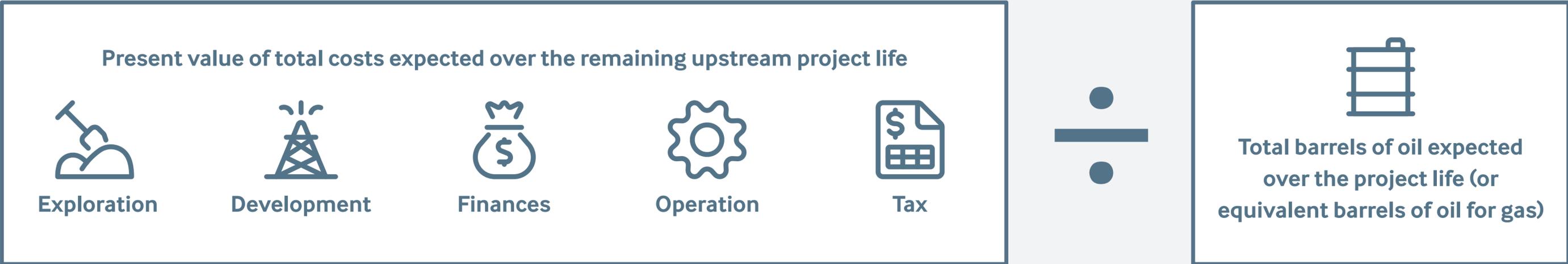
What about projects to be developed? This map shows all the oil and gas projects that Rystad analysts expect will be developed over the next five years.

This represents the next wave of oil and gas production, which governments will be keen to maintain. Some companies are already delaying developing some projects. Others are redesigning their projects to lower costs – such as the Pecan offshore field in Ghana operated by Aker Energy.<sup>10</sup> Companies may also start to lobby governments to change these projects' tax treatment, threatening to pull investment and with it production and employment. How can government officials decide whether to change the taxes on these projects?



# Key concept: Break-even price

The “break-even price” is a useful way to compare costs and prices. For each nascent oil or gas project, the break-even price indicates the average price needed over the life of the project to achieve a target return. (Rystad analysts assume this target return to be 10 percent of the capital invested.) In turn, comparing this break-even price with price forecasts, gives a government official a sense of which prospective projects might get postponed, which will be viable, and which ones companies might ask for tax breaks on.



# Discovered but undeveloped projects: modeling project costs

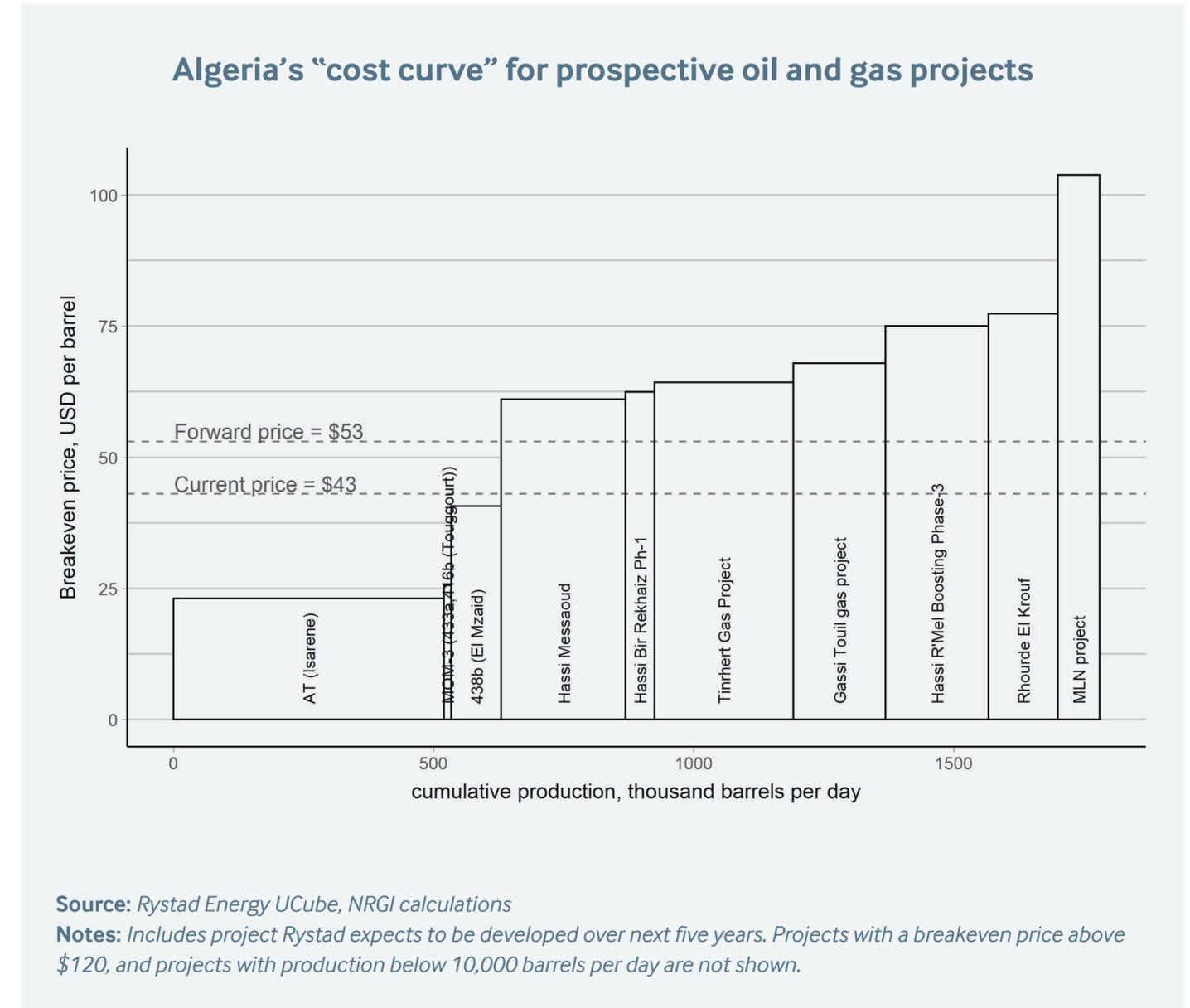
## Algeria case study

A cost curve shows the break-even prices and the expected daily production for each oil and gas project Rystad analysts expect to be developed over the next five years. A government official in Algeria might expect that those projects furthest to the left—those with the lowest costs—are safe, and that investors will develop them. Investors will not require tax breaks to make the projects breakeven.

Those projects furthest to the right—with the highest costs of production—are in much greater danger of being postponed or even cancelled. Only a large tax break would make these appealing to investors—so large that the government could conclude it's not worthwhile, given they would generate little government revenue.

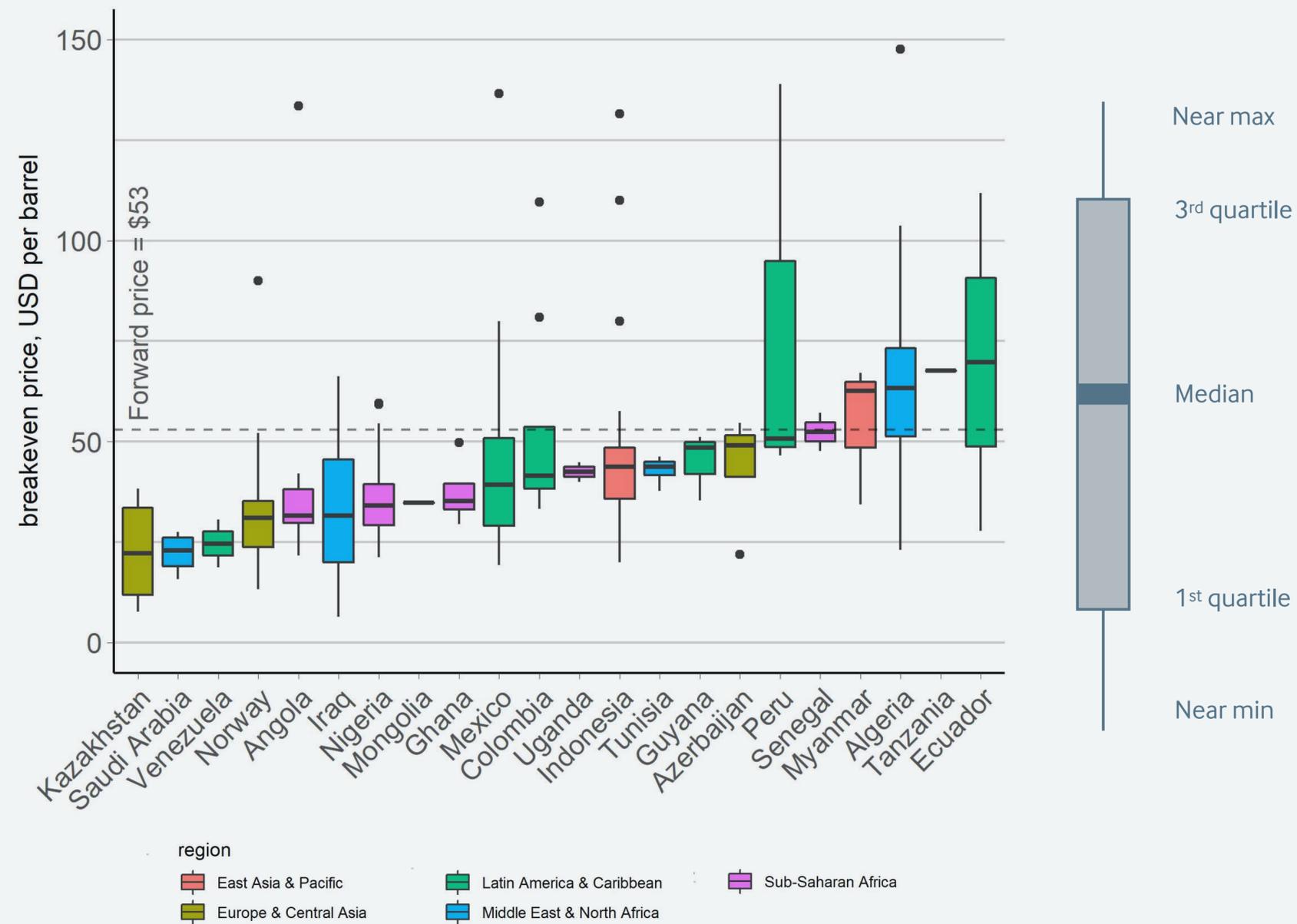
Government officials may be most tempted to offer tax breaks to the projects in the middle of the cost curve. A small change in taxation could be enough to make an otherwise unviable project viable.

Comparing these break-even prices with actual prices is not an exact science. Whether a company deems a project viable depends on what



the company expects prices to be over the life of the project. Each company has a different view, and so does each government. We have overlaid the forward price to help compare, but only as an example.

## Spread of breakeven prices for prospective projects across our sample



## Discovered but undeveloped projects: Some countries more exposed than others

Using breakeven prices is also helpful when looking at projects across the world. This chart shows the spread of break-even prices of prospective projects in 19 selected countries.

The next generation of projects in countries like Azerbaijan, Ecuador and Myanmar will be expensive. Officials in these countries might worry whether they can maintain their levels of production in the future, and may consider more than others reducing taxes.

Source: Rystad Energy UCube, NRG1 calculations

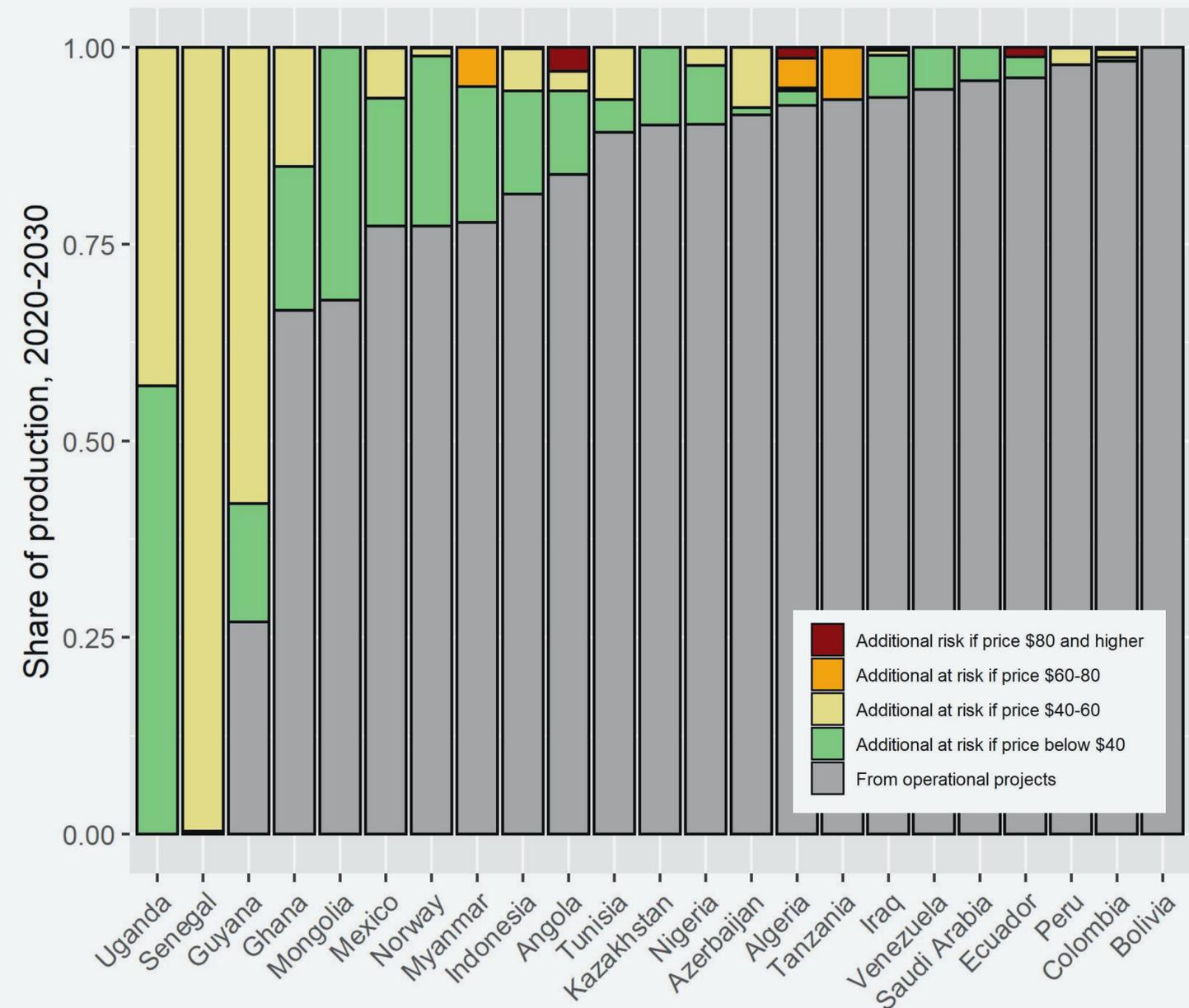
Notes: Prospective projects only. This is quantiles for each country, unweighted by production. Tanzania's main projects have lower breakeven than shown here, but Rystad does not expect these project to start in next 5 years.

# Discovered, but undeveloped projects: In the context of a country's total production, 'new producers' most exposed

Comparing the potentially foregone production with production from currently operating projects tells a slightly different story. Most countries are not significantly affected. Of the production projected for the next decade, most will come from already-developed projects, which are likely still viable even at low prices. Also, many upcoming projects have break-even prices below \$40.

Some countries stand out however—particularly so-called “new producers”—like Uganda, Senegal and Guyana. They may find their future as oil producers cut short or disappointing.<sup>11</sup> This chart shows that these three countries more than any other have much of their future production in high-cost projects that companies might not develop.

Share of total oil & gas production from operating and prospective projects



Source: Rystad Energy UCube, NRGJ calculations

Notes: Global mean production at risk is 14 percent, median is 10 percent.

## Undiscovered projects: License rounds postponed, rather than taxes reduced

Governments will also worry about attracting investors at the earliest stage of the oil and gas development process. At the exploration phase, offering competitive tax scenarios matters significantly. At the beginning of July, there were 21 open license rounds, and eight planned for 2020 or 2021.<sup>12</sup>

In most countries, governments set their fiscal regimes and then try to attract explorers. A few allow for direct negotiations between the company and government, in which taxes can be part of the negotiation. (Many advisors caution against this practice, or at least limiting the range of negotiation.)

In fact, half of licensing rounds planned for 2020 year are likely to be cancelled.<sup>13</sup> New offshore acreage could be cut by 60 percent compared with 2019, and onshore acreage by 30 percent. Therefore many governments might have decided that it's not worth bringing taxes down enough to attract investment—that it's better to wait. At this stage, much of the geological and costs of developing resources is unknown. This is a challenge for companies to determine the whether buying a license makes commercial sense.

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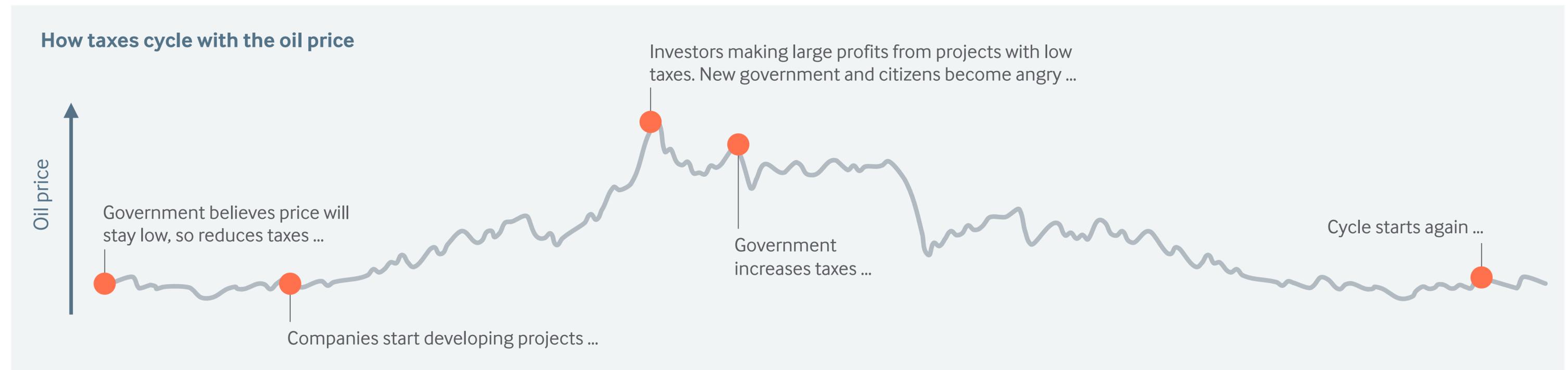
# Tax policy: Taxes have often cycled with prices—but not always

Tax breaks are costly and governments should use them with care. However, on most occasions, governments have let their taxes follow oil prices,<sup>14</sup> imposing heavier tax burdens when prices rise, only to lighten them by reducing rates and giving tax breaks when prices fall. This is why governments may reduce their taxes over the next few years if prices do not recover.

This may not be the case with every government. Not all governments “race to the bottom” when prices drop. Governments particularly keen on maintaining stability for companies resist the pendulum of tax policy:

despite the Norway and the U.K. sharing almost identical geological areas, Norway’s tax burden on oil has hardly moved, while the U.K. has modified its taxes frequently.<sup>15</sup>

In some cases, governments especially hit by falling prices have increased taxes on currently producing projects to keep funding their weakened treasuries. After the last price crash in 2016, while most other countries reduced taxes, Russia – particularly in need of money – cancelled tax breaks.<sup>16</sup>



# Tax policy: Plan for uncertainty - keep tax flexible, simple and predictable

Although some governments will prefer to postpone their licensing rounds, some governments may be considering making taxes more attractive. It is at the licensing stage that tax policy has the most potential to attract investors before they have sunk their investment. Governments should focus on designing their regimes correctly at this stage. If a government does change tax, it should avoid “manual” changes—such as exemptions or tax rate changes for individual companies—that chase the oil price. Instead, government could levy taxes that automatically respond to changing conditions—such as production shares that change with price, production or profit.

Making “manual” changes to companies’ taxes is problematic in two ways. It is difficult for companies to predict – dissuading companies from investing in the country in the future. It is also slow. In the mining industry, the Zambian government has changed its taxes on companies after every major price change, but a few years delayed. It maintained low taxes even as the copper market boomed, and thereby lost out on revenue.<sup>17</sup>

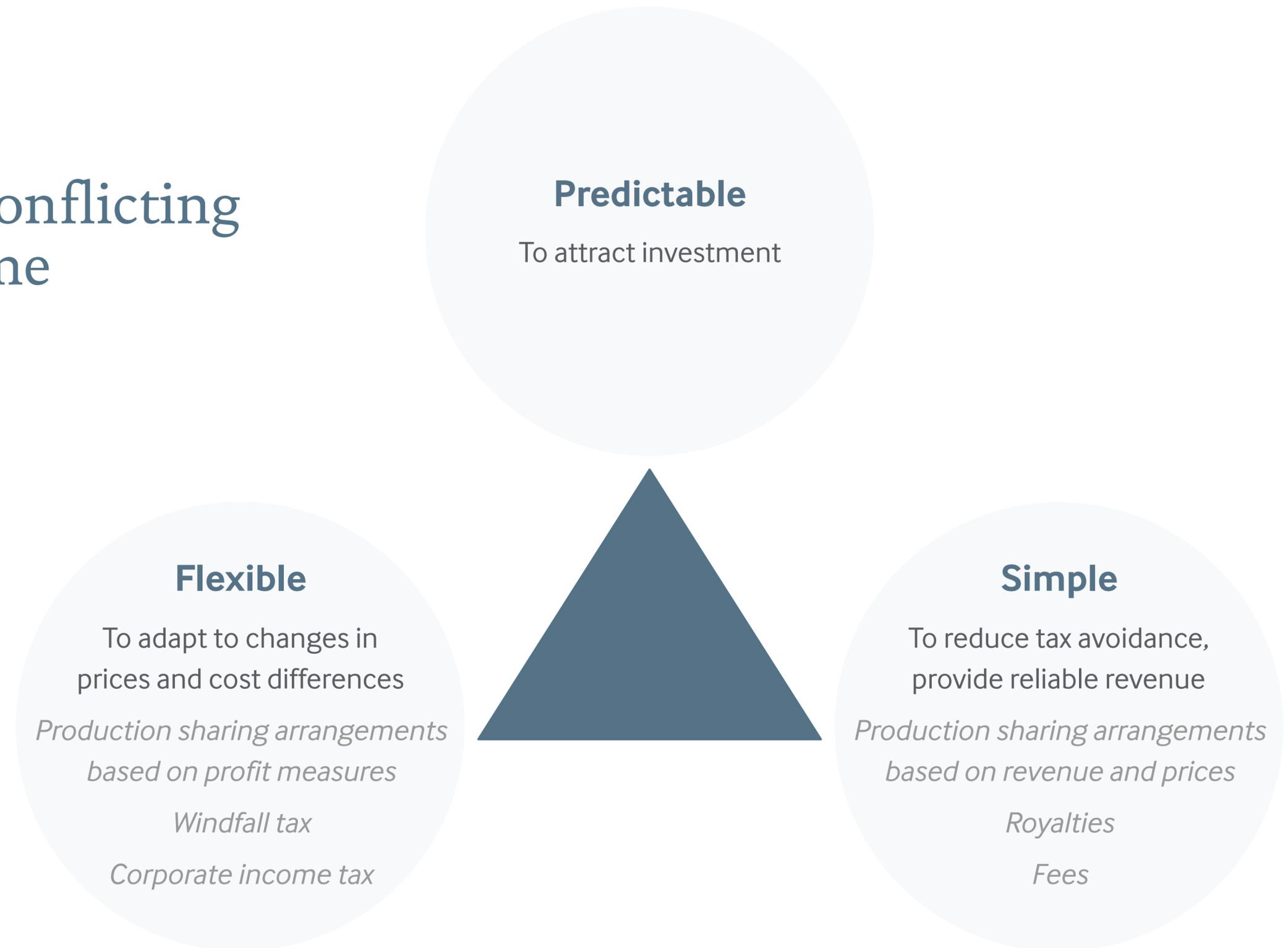
Oil tax regimes are generally progressive—the tax burden automatically changes in relation to profit changes. But some are more progressive

than others. For example, production sharing arrangements based on a measure of the project’s internal rate of return (IRR) likely creates a more progressive regime than one based on the oil price or sales revenue. The challenge is in accurately measuring the IRR. Governments face an inherent trade-off between setting taxes that are progressive—based on some measure of profits; and setting taxes that are easily measured by tax administrators—based on sales revenue.

Verifying companies’ profits is difficult for all tax administrators. But poorly resourced tax administrators in many oil-dependent countries particularly struggle to measure oil company profits, though some have improved in recent years. Governments should set taxes that are easier to measure—using tax bases like sales revenue and production.

Yet, this creates a dilemma. These easier to measure bases by definition do not track profits accurately, so can eventually lead to companies being taxed too much or too little. For governments and their tax authorities that need to levy taxes with these simpler tax bases, they should expect to come under pressure to change taxes as prices and costs in the industry change.

# Three important but conflicting qualities for a tax regime



## Guidance: Don't win the race to the bottom, only to lose the race back to the top

Some may think that this crisis is different than previous shocks—and in some ways it is. Deliberate government policy has caused the current economic malaise, and the collapse in many economic sectors makes it harder for government to find alternative income. In many oil-dependent countries, government finances are already in serious trouble.<sup>18</sup>

The effects of the energy transition also diminishes the prospects of these countries, even as transition benefits the world in general. But in other ways, the impact on oil- and gas-producing countries is similar to that of past price drops, and the challenge for tax policy makers is the same—how to contend with an uncertain future.

# Guidance: Don't win the race to the bottom, only to lose the race back to the top

The key principles of oil taxation remain useful

**Don't overreact ...** by cutting taxes to win a race to the bottom, only to lose out when prices rise again. Prices are unlikely to stay low, and might continue to cycle, even if long-term prospects are increasingly uncertain.

**Plan for uncertainty.** Use a progressive tax regime, but consider the trade-offs in simplicity and reliability of payments. Plan for these trade-offs accordingly.

**Reconsider providing tax relief to projects already in operation.** They may not require it.

**For projects yet to be developed,** ask "Does my country need to maintain production or employment from these projects, or can we delay some projects? Estimate costs and model projects to verify break-even prices. It may emerge that few need support. If you provide tax support:

- Don't give tax breaks on projects that will be viable even when the price is low.
- Ensure that any tax break is short, with a set expiration date.

**For exploration projects,** consider postponing licensing rounds, and remember the three qualities in tax regimes: flexible, simple and predictable.

## Disclose these types of information:

1. Contract terms and supplementary documents, to show the tax regimes oil projects face
2. Real-time reporting on any tax incentives, exemptions or other government support to oil companies
3. Estimated break-even prices for projects, to show project viability under different price scenarios.
4. Aggregated break-even price for the whole country compared with other countries to show position on the global oil cost curve.

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