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Research Brief

How Does the Cost of Capital Affect Oil Production?

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In the spirit of green finance, restricting fossil-fuel producers' access to capital is intended to help address the climate challenge. An analysis of U.S. and Canadian oil projects producible over 2000-2024 shows that a higher cost of capital would instead have increased oil production.

Over the past decade, a growing number of investors—now representing about one third of global assets under management—have committed to ending their financing of oil production. In the spirit of green finance, restricting fossil-fuel producers' access to capital, thereby raising their cost of capital, is intended to help address climate change.

This financial approach to climate policy contrasts sharply with economists' traditional prescription of pricing carbon directly. Yet policymakers and financial regulators have rapidly embraced it as a new paradigm, as reflected in the growing use of so-called green finance taxonomies. The finance literature (see, e.g., Pedersen, 2026) suggests that green finance, modeled as an increase in firms' cost of capital, raises the cost of producing carbon-intensive goods in a way that mimics carbon pricing.

Cordt, Daubanes, and Ma's (2026) recent CEEPR working paper, however, suggests that green finance may be counterproductive, inducing the oil industry to produce more oil, even over a long period of time. Unlike previous studies, they examine how the cost of capital affects real investment projects that generate costs and revenues over time, also taking into account the response of the global oil market.

A firm's cost of capital is the rate of return required by its shareholders. It determines how the firm discounts future cash flows when evaluating investment opportunities. The authors model oil-production decisions as maximizing the net present value (NPV) of oil projects—the metric that matters to shareholders—at the field level, given anticipated oil prices.

An increase in the oil industry's cost of capital has two main effects. First, it reduces projects' NPVs, causing firms to abandon some of them. At the industry level, however, the resulting reduction in investment raises oil prices, partly offsetting this effect. Second, a higher cost of capital makes firms more short-term oriented, encouraging them to bring revenues forward by developing projects sooner.

Building on recent studies of the dynamic equilibrium of the oil market (e.g., Asker et al., 2019; Asker et al., 2024; Coulomb et al., 2026), the authors calibrate their model using Rystad Energy's data on the costs and production of the universe of U.S. and Canadian oil fields exploitable over 2000-2024. They then use the calibrated model to simulate oil production under alternative cost-of-capital scenarios. The figure shows how the cost of capital affects the total lifetime oil production from projects initiated over the 2000-2024 period.

Starting from a baseline real cost of capital of 4% (in line with estimates), green premiums of up to 4 percentage points increase oil production. The reason is that such premiums

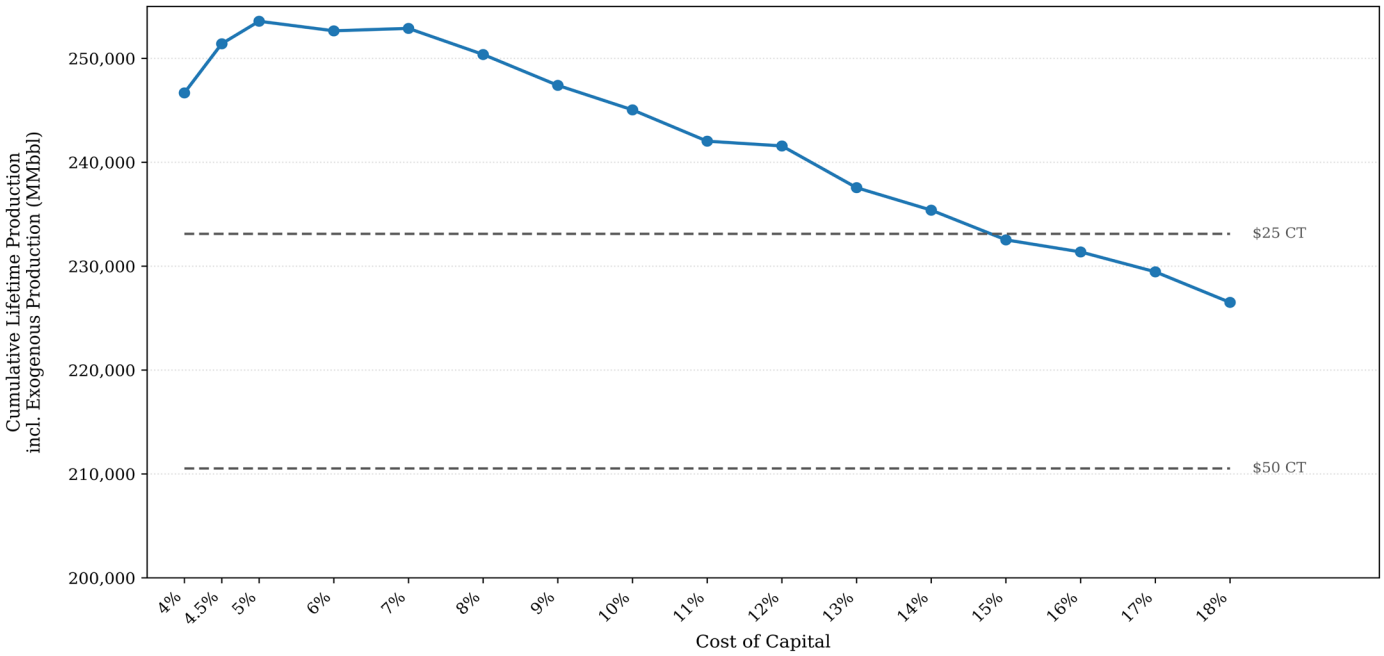

Figure 1. Total oil production and the cost of capital.

The figure plots total oil production (in million barrels) under a range of cost-of-capital scenarios. Total production is defined as the cumulative lifetime production from projects undertaken during the 2000-2024 period. The blue curve connects the simulated combinations of total production and the cost of capital. The grey dashed horizontal lines indicate the total production that would result from carbon prices of $25 and $50 per ton of CO_2.

lead firms to abandon only a few projects: Estimated internal rates of return (IRRs)—a measure of project profitability—generally remain well above the cost of capital. At the same time, a higher cost of capital makes firms more short-term oriented, encouraging them to develop profitable projects sooner. For example, under a 2-percentage-point premium, projects are brought forward by about four years on average. Some of these projects would otherwise have been developed later, resulting in higher oil production over the period of interest.

Only larger increases in the cost of capital—premiums exceeding 5 percentage points—reduce oil production below its baseline level. However, the premiums required to achieve such reductions are implausibly large. For example, Cordt et al. (2026) show that matching the effect of a modest carbon tax of $25 per ton of CO_2 ($13.6 per barrel) would require an 11-percentage-point increase in the oil industry's cost of capital. By comparison, Eskildsen et al. (2024) estimate that the brownest firms currently face a green premium of only about 50 basis points—roughly twenty times smaller.

To sum up, capital penalties have only a limited effect on oil production because oil projects are highly profitable, typically generating returns well above firms' cost of capital. Additionally, if capital penalties become large enough to reduce oil supply, the resulting increase in global oil prices raises the profitability of the remaining projects, partly offsetting the intended effect of making capital more expensive.

Cordt, Daubanes, and Ma's analysis highlights a fundamental difference between the financial approach to climate policy and carbon pricing. Unlike green finance penalties, carbon pricing systematically reduces fossil-fuel producers' incentives to extract. Absent effective carbon pricing, green divestment alone is unlikely to align oil producers' incentives with climate objectives. In this context, investor engagement might be useful in encouraging firms to adopt a longer-term perspective, offsetting the short-term incentives created by higher costs of capital.

References

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Link to the full working paper discussed in this brief:

Cordt, H., Daubanes, J., and Ma, Y. (2026), "How Does the Cost of Capital Affect Oil Production?," MIT CEEPR Working Paper 2026-18, October 2026

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