

Gulf of Mexico Energy Exploration and Production Transcript

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Moderator: *Welcome to the Federal Reserve Bank of Atlanta's EconSouth Now podcast. Today, we're speaking with Eric Smith, associate director of the Entergy-Tulane Energy Institute at Tulane University in New Orleans. The institute was founded in 2003 to establish a systematic research program aimed at improving understanding of the integration of energy markets, policy, technology, and the environment. We're talking with Eric today about oil and gas exploration and production in the Gulf of Mexico. We appreciate you being with us, Eric.*



Eric Smith: Well, thanks for having me. It's an interesting time to be looking at the Gulf of Mexico oil and gas production.

Moderator: *Indeed it is. First off, Eric, oil and gas production in the Gulf has been generally flat from year to year, or even going down a bit in the past several years. What are the primary reasons for that?*

Smith: Well, the first thing to remember is that this is a bifurcated market. There are two markets in the Gulf of Mexico. There's a shallow-water shelf market, which indeed has been in decline for a number of years, and then there's the deepwater market, which has actually been increasing for several years now. So what's been happening is that the Gulf was primarily producing in shallow water, producing primarily natural gas, and that has sort of been in terminal decline. There are a few bright spots, but basically, overall, less and less gas comes out of the shelf every year, and by the shelf I mean anything out to about 1,000 feet of water. Beyond that, things have been going like gangbusters. We keep finding fields and drilling them and putting them online, and that volume has actually been increasing. It's primarily oily—there's some associated gas—but it's primarily an oil region.

Moderator: *Well, how much is it likely to increase in the next few years, the production in the ultra-deepwater Eric?*

Smith: Well, you tell me what Congress is going to do, and I'll tell you what the production is going to do. But generally, we would think it would continue to increase. The caveat is that government policy has quite a bit to do with people's appetite for investing a billion [dollars] or so in developing deepwater fields. And they are extremely expensive to develop, and they take time. So a great discovery today might mean some oil production five years from now.

Moderator: *Well, that's one of the factors among many that are at work here, but can you briefly explain how higher global oil prices that we've experienced in the last year or so ultimately affect exploration and production in the Gulf of Mexico?*

Smith: It provides the main underpinning for it. People look at that oil price and say, "Well, I'm going to knock off \$20 or so. Can I survive and expend what I need to spend to develop this field and still make a decent return?" And that's sort of the beginning of the math for that kind of analysis. The thing I've got to tell you, though, is that when we look at the ultra-deepwater fields, like the tertiary development and the Jack 2 field, which got so much exposure in the press a couple of years ago, these are extremely expensive fields to develop. The oil is not of the best quality, and you're not going to fool around with it if oil were to go down to \$70 and stay there. You would shut that program down. So that's the sort of hurdle that you get to. We go out in stages, just like you do when you are generating power in a nuclear power plant or something. We sort of go after the big fields and the shallow fields first, and then we keep getting into ever more challenging environments to produce oil. And when I say "challenging," I mean more expensive.

Moderator: *Is there a sort of a magic price level that makes this kind of exploration and production viable, Eric?*

Smith: Well, that's what I was saying. I think that most economists would tell you—including Stephen Brown over at the Dallas Fed—that something in the order of \$70 or \$80 a barrel is the upset price, and below that you don't develop domestic oil. And that's not just true about the Gulf, that's true about the oil sands, the shale sands, Bakken shale, and things like that as well.

Moderator: *Now, Eric, as you mentioned, most of the action in the Gulf is moving farther and farther offshore, and in extremely deep water. How much more difficult and expensive is it to drill, say, 150 miles out in 7,000 feet of water as opposed to closer-in water that's shallower?*

Smith: Well, let me give you two data points. If I'm drilling onshore, a typical shale gas well in Texas—Barnett shale, something like that—I might look to spend \$5 million or \$6 million per well. If I drill a well the same depth offshore, I'm going to spend something like \$250 million per well, and it's going to take a lot longer. So real estate's very, very expensive when you have to bring it out from shore and hold position with computers and drill at those sorts of depths and deal with all the currents in between before you ever hit the mudline. You've got all sorts of problems, so then drilling a couple of miles below that into the earth has got its challenges, and sometimes it makes sense to do it. What you can't do is go out and exploit small, marginal deposits with wells that cost that much. You have to find big fields.

Moderator: *This oil in the Gulf is under such deep water, and then literally in some cases miles under the sea floor. How does that differ from some other oil-rich regions around the world that we hear a lot about? Is it closer to the surface in a lot of these other areas?*

Smith: It's closer to the surface in virtually any of the other areas, with the possible exception of these new fields that they're finding off the coast of Brazil, like the Tupi field. Those are in equivalent depths, and you're drilling through the salt to get to them. So they're very comparable to the sorts of things we're doing in the deepwater tertiary play or in the Gulf of Mexico. The difference is the oil they get out of the ground is a better quality than the oil we'll get out of the ground.

Moderator: *Technology, as I understand it, is a big factor in enabling companies to drill in these depths and extract oil out there. How much has the technology advanced in the past 25 years or so, Eric? And how big a role does that play?*

Smith: Well, it plays a very big role, and it's been the key to any of the deepwater development. Twenty-five years ago, in the early '80s, we would've thought deepwater was 600 feet deep. That would've been the limit. We're easily an order of magnitude deeper than that now. And the drilling, the floating production equipment is all technology that evolved since that point in time. The idea of FPSOs [floating production storage and offloading vessels]—which are these movable, converted tankers and purpose-built vessels that are used not so much in the Gulf but in other parts of the world to develop deepwater oil and gas—that's new technology. All kinds of new drilling technologies, including things like directional drilling and drilling down vertically and then going horizontal, and steering the wellbore within 20 inches of where you want it to be, that's all new technology that's evolved in that time frame. And finally, things like sequential fracking, which is more of an onshore technique, make it possible to produce gas from these heavy shale and to a certain extent from the sedimentary deposits we're talking about in the case of the tertiary play in deepwater. So the technology changed 100 percent, easily.

Moderator: *Thanks again, Eric. We've been speaking today with Eric Smith of the Entergy-Tulane Energy Institute at Tulane University in New Orleans. This concludes our EconSouth Now podcast on offshore energy production in the Gulf of Mexico.*

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