Above-Ground Obstacles to Production

A country's ability to produce oil isn't solely determined by its geological formations; several above-ground factors also affect the risks and costs associated with exploration, drilling, production, and transportation to downstream consumers. Because international oil companies remain the most proficient in the more technically difficult extraction techniques, above-ground factors that hinder foreign companies' investment in certain countries can slow or even block the spread of new production technologies to those areas.

Political Uncertainty

"No matter how good the rocks are, if you don't have a stable, transparent, predictable regime you're not going to establish the conditions that are going to welcome the level of investment that's required," U.S. Deputy Secretary of Energy Daniel Ponemon said, referring to Argentina's ability to capitalize on its shale resources. Oil production and exploration projects are expensive and typically require companies to make large up-front investments. This is especially true for unconventional plays, which are more costly to develop than conventional formations. Companies sometimes fear that the government will unilaterally renegotiate fees for oil concessions, nationalize foreign assets that have been built to exploit an energy play, or otherwise change the investment environment in the future. Political uncertainty — whether in the form of weak governments or unpredictable energy policies — can threaten the viability of a project or the revenues international oil companies might earn from it, thus discouraging companies from investing.

Security Risks and Instability

Companies also consider a country's security climate before choosing to invest. Attacks on pipelines, production facilities, equipment and personnel are not uncommon in some parts of the world and add to a company's assessment of probable cost and liability. For instance, international oil companies like BP have cited security concerns as a possible reason to delay several energy projects in Algeria, where al Qaeda-affiliated militants launched an attack on the Tigantourine natural gas facility in Ain Amenas in January 2013, taking a number of foreign national employees hostage. Similar concerns exist for companies looking to operate in countries such as Colombia, Nigeria, and Sudan, where militants and rebel forces historically have targeted pipelines for assaults or oil bunkering operations.

Corruption

Bribery raises the cost of operations for international oil companies. It also poses a problem for companies based in countries with legal restrictions against engaging in bribery in the pursuit of business in foreign countries. The United States serves as a prime example: The Foreign Corrupt Practices Act, passed in 1977, bars U.S. companies from making payments to foreign officials for the sake of obtaining or retaining business. In practice, this means it is very difficult for new production technologies from the United States to spread into corrupt economies. Meanwhile, international oil companies based outside the United States will also often choose to avoid the extra cost and risk of litigation associated with operating in such countries.

Local Content

Governments use local content clauses to require international firms investing in their country to work with local businesses and suppliers. Though sometimes beneficial to local communities, local content requirements can be a strong disincentive for international oil companies looking for new places to invest. For example, the local companies with whom they must work may lack the necessary technical skills or charge fees that hike up total operational costs. Local content is also often intended to force the transfer of technology from the international firms to the host country's firms, which poses yet another problem for international oil companies seeking to maintain their edge in the marketplace. Each of these concerns can deter the spread and implementation of new production technologies; in Brazil, for example, the government's high local content requirements are often cited as a factor slowing foreign investment in the country's deepwater plays.

Inadequate Infrastructure

Many countries lack the infrastructure to make effective use of oil resources. Although the potential for profits are great, countries require large up-front investments to extract oil. Some producing areas might have limited or low quality pipelines, export terminals, or refineries. Access to proper technology is another infrastructure-related obstacle to unconventional oil production. Currently, major IOCs like Shell and BP are the only companies with the access and expertise to use these technologies.