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HD **Shell Is Planning to Build a Boat To Tap Remote Natural-Gas Fields**

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Royal Dutch Shell PLC says it has a way to spend less on tapping remote natural-gas fields. There's just one catch: It will cost at least $10 **billion**, according to people who have worked on the project.

Shipyard workers in South Korea are building a hull for the Anglo-Dutch **company** that stretches more than 490 meters from bow to stern. The boat will drop anchor in a natural-gas field, chill the gas into liquid and pump it into tankers.

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The vessel, christened Prelude, will produce enough natural gas to supply **Hong Kong** for a year, according to Shell. The **company** says the giant project will help Shell develop gas fields that are too small or far-flung to justify the pricey pipelines and onshore processing plants needed for offshore gas fields.

Shell hasn't announced a completion date for Prelude, now a bright red hull afloat in the shipyard, but it likely is months away. Workers must attach the 32-meter-tall turret that will process the natural gas.

Shell is plowing ahead with Prelude even as the **oil** giant tries to rein in overall spending. The **company** recently sold a **stake** in another Australian gas project and abandoned plans to build a plant in the U.S. to convert natural gas to diesel.

To compete in a world where the easy **oil** is gone, "you have to have the idea, you have to have the engineering solution, and you have to have the guts to put it into reality," says Matthias Bichsel, Shell's head of major projects.

The idea of a floating gas barge has been around at least since 1975. An employee of a **company** owned by reclusive **billionaire**Howard Hughes published a paper proposing such a vessel, which could tap fields too far offshore or with "too small an estimated reserve to justify the tremendous capital investment" of onshore plants and pipelines.

Some engineers suggested concrete-hulled boats, vessels made out of steel and even a big barge with a hole in the middle that engineers called "the doughnut," says Neil Gilmour, Shell's vice president in charge of natural gas. Every idea was written off as too expensive or risky.

In 2007, Shell discovered a gas field more than 160 kilometers off the Australian coast. The gas field wasn't large enough to justify tens of **billions** of dollars for pipelines and onshore processing, and Shell geologists questioned how productive it would be, according to people involved in the process.

Shell executives also debated the project, but top officials decided in 2011 to go ahead with it, partly on the rationale that the boat also could be used at a natural-gas field discovered nearby in 2009.

The project's design challenges include trying to cram a processing plant onto the vessel and minimizing the amount of sloshing by liquid gas in the hull.

Australia has drawn other **energy** companies because of its vast gas reserves and proximity to Asian markets hungry for liquefied natural gas.

The frenzy has driven up the cost of materials and labor, swelling budgets and timelines for gas plants built on land. Prelude hasn't been squeezed by those pressures, according to Shell.

Even though Shell's untested technology hasn't set sail, Exxon Mobil Corp. has told Australian regulators it is considering a gas-harvesting boat. Mr. Bichsel says Shell officials are discussing building a second vessel.

"Since we have the size and we can afford it, going for the larger projects makes perfect sense for our **company**," he says. "It is not because we are mad and have to be the first."

(See: "In Depth: Big **Oil** Companies Struggle To Justify High Project Costs --- Chevron, Exxon, Shell Have Little to Show For the Over $120 **Billion** Spent in 2013 to Boost **Oil** and Gas Output" -- WSJA January 30, 2014)

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