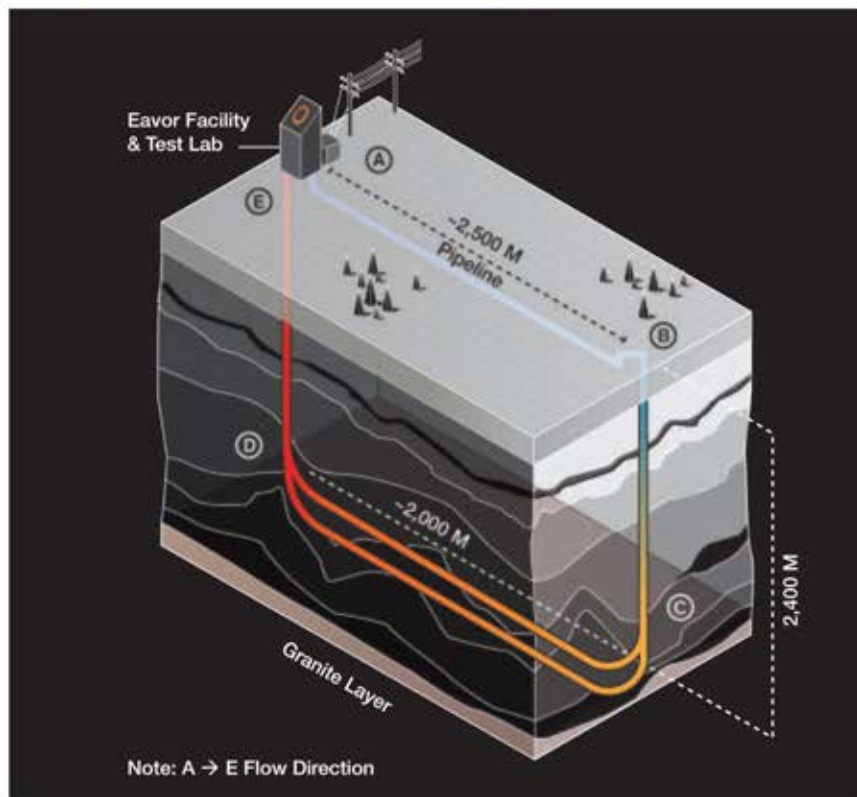


Eavor-Loop™: World's first truly scalable source of zero-carbon operation baseload and dispatchable energy

The world is moving relentlessly on the path to zero-carbon operation energy. However, the holy grail of zero-carbon operation, baseload, and dispatchable power that is also scalable has been out of reach. Trying to get there with two of the current leading sources of zero-carbon operation energy—wind and solar—suffers from intermittency—the wind isn't always blowing or the sun shining. But there is hope on the horizon: the world's first scalable source of zero-carbon operation baseload and dispatchable energy is now available. Eavor-Loop™ from Eavor Technologies Inc. is a geothermally-based closed-loop fluid system that takes advantage of the temperature gradient between the surface and the subsurface to provide an on-demand energy source that produces energy without generating emissions. An Eavor-Loop™ also has a relatively small surface footprint and may be scaled up to the desired energy demand.

Innovative zero-carbon operation technology

The Eavor-Loop™ technology creates an entirely closed fluid loop by joining two vertical wells both on the surface and at the ends of several multilateral wellbores at depth (see adjacent illustration). The wellbores and multilaterals provide direct conductive access to the hot rock at depth, acting like pipes or conduits of heat rather than as wells producing fluid from the earth. Eavor's proprietary water-based working fluid is circulated throughout the system to harvest geothermal heat for electrical power generation or commercial heating/cooling applications. There is no fluid produced from the subsurface. At Eavor's demonstration facility (named Eavor-Lite™), the closed-loop consists of two 20-cm-diameter vertical wellbores (BC and DE in Figure 1) that are run through sedimentary rock at about 2,400-m depth before making 90° turns and running horizontally (CD, Figure 1) for about 2,000 m.



Eavor-Loop™ is a closed-loop fluid system that extracts heat from the natural geothermal gradient of the Earth with minimal environmental risks. The natural heat is suitable for heating, cooling, and electrical power generation. Pictured here, Eavor's Demonstration facility built near Rocky Mountain House, Alberta: Eavor-Lite™.

The multilaterals are connected precisely using magnetic ranging technology commonly used in oilfield drilling. The vertical portions are cased down to the turn to horizontal, and the multilaterals are completed using a Rock-Pipe™ chemical sealant at a cost lower than casing. Each multilateral is completely isolated from the surrounding rock and each other.

Remarkably, the working fluid circulates naturally without requiring a parasitic pump load due to the thermosiphon effect of a cool fluid being heavier and falling naturally in the inlet well and lighter hot fluid rising naturally in the outlet well. This, along with the cost-saving associated with the use of Rock-Pipe™ in place of casing in the horizontal sections, substantially

lowers the capital and operating costs, making the Eavor-Loop™ technology financially viable. The flow rate is adjusted, depending upon the application or dispatchable demand. For a heat network, the flow rate is typically faster than if the application is power generation. Pumping is required only for the initial start-up.

Unlike traditional geothermal wells, and given the complete isolation from the surrounding rock, Eavor-Loops are not burdened with exploratory risk or limited to niche geographies that contain highly permeable aquifers at volcanic-like temperatures. Of course, the economics are better in areas of higher thermal gradients. Additionally, Eavor-Loop™ has the advantage of no fracking and no induced