

OIL SHALE NEWS

Colorado Oil Shale Symposium highlights Enefit and other worldwide projects

Several oil shale projects around the world are on track to achieve commercial-scale production in the near future, creating a sense of eager anticipation for the industry, attendees heard at the 33rd Oil Shale Symposium, held in mid-October at the Colorado School of Mines in the United States.

Projects in Estonia, Australia, Brazil and the United States are all close to major milestones that promise to significantly increase the amount of oil that is produced from oil shale, representatives of several companies said. Jeremy Boak, from the Colorado School of Mines, noted that should all of the ongoing development projects succeed, output may increase to 400,000 barrels a day by 2030. These include Enefit's new shale oil plant in Estonia that is in the late stages of hot commissioning, recently running at up to 85 percent of its design capacity, as Indrek Aarna from Eesti Energia indicated in his presentation.

David Argyle, who is leading the development of the Irati Energy project in southern Brazil, said that, from a financier's point of view, one new successful oil shale project will "change the tenor of the sector overnight." He suggested that development is imminent.

In addition to the Enefit280 plant in Estonia, Queensland Energy Resources' (QER) demonstration plant in Australia is operating and Red Leaf Resources' project in eastern Utah is set to begin operations in the next year. In the US, Shale Technologies International (STI) has built a new Paraho bench scale unit to test different oil shales, which compliments their existing pilot plant. In Fushun, China, a large-scale shale oil plant is in commissioning using the *Alberta Taciuk Process* (ATP), and first oil has been produced. Canshale is planning to use the same technology in their recent shale oil development project in Saskatchewan, Canada. Enefit's Utah project is in the environmental review and permitting phase and is several years from starting production but is moving forward.

All of the projects that are progressing relatively quickly to production involve surface mining and processing, rather than in situ extraction. Just a week before the Oil Shale Symposium, Royal Dutch Shell announced that it will close its Mahogany Research Project in western Colorado. This follows Chevron's closure of its in situ project a year ago. In both cases, the companies said the decisions were part of portfolio-wide reassessments and not a repudiation of oil shale as an energy source. Shell, in fact, said it will continue research in Canada and Jordan and both Shell and Chevron plan to retain their private oil shale holdings in the US. Both companies have made it clear for years that they were early in the R&D phase and years away from

making any decisions regarding potential commerciality. Several other in situ research and development projects are continuing in western Colorado as well.

Enefit was asked to host a panel discussion at the 33rd Colorado Oil Shale Symposium about the “social licence to operate” – the level of acceptance or approval of an organization’s operations or project by the local community and other stakeholders. The panel highlighted some dos and don’ts and Enefit was extremely appreciative of the positive feedback we received on our transparency and engagement efforts from both community and NGO participants. The oil shale industry has a long, varied and not-always happy relationship with the communities affected by it. As with other industrial ventures today, it has become increasingly difficult for oil shale projects to balance the needs and expectations of government regulators, investors, local officials, environmental watchdogs and residents of areas that host facilities. Ryan Clerico, Manager of Environmental and Regulatory Affairs in Enefit American Oil, and Brian Wilkinson, partner for public relations for Enefit American Oil, started with a joint presentation about the need for oil shale projects to obtain a “social licence to operate,” just as they must secure myriad regulatory permits. A panel discussion with local officials and interest group representatives followed.

Enefit gave several presentations at the conference. Rikki Hrenko, CEO of Enefit American Oil (EAO), gave an overview of the Enefit Utah project's activities this year and plans for the near future. Benjamin France, mining engineer at Enefit American Oil, gave a presentation on the bulk sample collection process used to assess the quality of Enefit Utah's oil shale.

Hermann Sieger, Research and Development Manager at Enefit Outotec Technology, gave an overview of pilot plant tests operating with Utah's oil shale. As Utah’s oil shale has a number of properties that are different from those of the Estonian oil shale, the oil production process has to be adapted and modified. One example is that the Utah shale is drier than the Estonian shale, so the drier can be removed from the process.

Oil shale tests using rocks from Utah were conducted in the middle of September. Although the results are still being analysed in different laboratories and the final results will take some time, Hermann Sieger said that stable shale oil production was established in the pilot plant with the average feed rate of 250 kg/h.

More than 200 experts from 15 countries participated in the symposium organised by the Colorado School of Mines. From Estonia, representatives of Eesti Energia, Viru Keemia Grupp, and University of Tartu took part in the conference.

Indrek AARNA

Head of the Research and Development
Department at Eesti Energia