

Cenergi RE – Case Studies



Havys Biogas Power Plant

The Havys Biogas Project operates under a 13-year Build-Own-Operate-Transfer (BOOT) agreement with the Havys Palm Oil Mill owner through which the mill provides palm oil mill effluent (POME) as feedstock for biogas production. A portion of the revenue garnered from this project is shared with Havys Palm Oil Mill as per the agreed revenue share terms. The total project cost of this 2MW plant was 100% funded by Cenergi and it first began exporting electricity to the national grid in August 2013 in amounts sufficient to power more than 700 households. Cenergi's in-house operations team manages all matters pertaining to construction, project delivery, operations and maintenance for this project.

The in-ground anaerobic digester used in Havys typically generates 1,200 ~ 1,500m³ raw biogas per hour, which is scrubbed to remove hydrogen sulphide and chilled to reduce its moisture content. The treated biogas is then channelled to 2 x 1,063 kWe Jenbacher engines for electricity generation from which electricity is exported to the national grid via a 3km power cable to the nearest substation.

This project holds a renewable energy power purchase agreement (REPPA) with Tenaga Nasional Bhd and qualifies as a renewable energy feed-in tariff program that is governed by the Sustainable Development Authority of Malaysia (SEDA).



Sawira and Cheekah-Kemayan Biogas Power Plants

The Sawira and Cheekah-Kemayan Biogas Power Plants were both developed by Biopower Climate Care Holdings Sdn Bhd (BPCCH), a joint venture project company comprising of Cenergi and Green Lagoon Technology Sdn Bhd (GLT), a biogas technology provider. These two projects are located in the state of Pahang in close proximity to the Kilang Sawira Makmur Palm Oil Mill and Cheekah-Kemayan Palm Oil Mill respectively.

Sawira and Cheekah-Kemayan each have a capacity of 1MW and commenced operations in October 2015 generating roughly 585m³ of raw biogas from POME per hour. Similar to Havys, both plants utilise in-ground anaerobic digesters to produce untreated biogas, which is then channeled to a single 1,063 kWe Jenbacher engine. These projects also hold a renewable energy power purchase agreement (REPPA) with Tenaga Nasional Bhd and qualify as renewable energy feed-in tariff programs that are governed by the Sustainable Development Authority of Malaysia (SEDA).



Sri Jelutong Biogas Power Plant

The 1.5MW Sri Jelutong Biogas Power Plant is a project developed under Metro Havana, a joint venture project company comprising of Cenergi and Tanah Makmur Berhad. Metro Havana is the company responsible for the design and construction of the Sri Jelutong Plant, which lies in close proximity to the Sri Jelutong Palm Oil Mill located in the state of Pahang.

This plant will utilise an in-ground up-flow anaerobic sludge blanket (IUASB) reactor as a digester to produce raw biogas from POME. Similar to Cenergi's other biogas power plants, electricity generation at Sri Jelutong will be underpinned by a renewable energy power purchase agreement (REPPA) with Tenaga Nasional Bhd and qualifies as a renewable energy feed-in tariff program that is governed by the Sustainable Development Authority of Malaysia (SEDA).

Sri Jelutong is expected to be completed and ready for commercial operations on the 14th of July 2017.