As part of its Energy Efficiency and Environment Improvement project, Bangchak Petroleum selected Axens’ continuous catalyst regeneration (CCR) reforming Octanizing technology to produce high-quality reformate, a high-octane blending stock, for its Bangkok, Thailand, refinery gasoline pool.

The CCR Reforming Octanizing technology (FIG. 1) is specifically designed to produce high-octane reformate from naphtha. The process features the following main characteristics:

- A simple side-by-side reactor arrangement for ease of construction and maintenance; a low structure for better access and safety; and flexibility in reactor design to optimize unit performance at minimum cost.
- The CCR system features a non-pulsing lift system for smooth operation, and exhibits one of the industry’s lowest catalyst attrition rates for high onstream performance.
- The latest regenerator design with two distinct burning zones and a protective “dry burn loop” for significantly reduced catalyst aging with minimum loss of chlorides. The optimized oxychlorination section results in a further reduction in chloride consumption.
- The regenerator design is intrinsically compliant with the most stringent environmental regulations, notably on chlorides and particulate matter, without additional proprietary abatement equipment.
- The catalyst features outstanding selectivity, providing maximum reformate yield. In addition, its composition and mechanical strength provide highly stable performance over an extended catalyst lifetime.

The Bangchak project consists of a grassroots Octanizing unit (FIG. 2) with a design feed capacity of 12,000 bpsd (barrel per stream day). For this specific project, detailed studies based on competitive front-end engineering design (FEED) were conducted by an independent party, which demonstrated that Axens’ technology solution was the most economically attractive option for the Bangchak Petroleum project. Startup is scheduled for the end of 2018.

Proven reliable technology was a key element for Bangchak Petroleum and for the viability of the project. Additionally, the Octanizing process was recognized as one of the most environmentally friendly processes on the market, through a combination of technology and catalyst design. This was another of the key deciding factors in the awarding of the contract.