

Gasification Technology of Value Creation for KSA Economy Under Vision 2030

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Gasification and IGCC (Integrated Gasification Combined Cycle) have matured to be viable options in creating value from available resources in an efficient and environmental friendly way. Improved flexibility, vastly increased scale, and new applications are driving gasification technologies to gain greater prominence than ever before. In Saudi Arabia, applying gasification technology to convert petroleum coke, refinery heavy residue, and municipal waste to electricity and chemicals opens a new door for the Kingdom economy under KSA 2030 Vision. Globally, low carbon footprint and greenhouse gas (GHG) control demand innovations that can economically capture and sequester CO₂.

As a global energy leader, KSA is closing the gap with advanced and emerging countries in applying the gasification technology by building the world largest closing the gap with advanced and emerging countries in applying the gasification technology by building the world largest IGCC in Jazan, which is scheduled to be started up in a few years. Experiences accumulated in operating and optimizing the Jazan IGCC facility will put KSA in the forefront in this area, and further stimulate more innovations. A new sector of job market will be created. Many local young talents will be trained to become skilled operators and engineers in Gasification and IGCC.

This paper will provide a summary of major gasification technologies in the market, and their potential applications in Saudi Arabia. Challenges and lessons learned in executing mega-scale gasification projects will be also discussed.