

LP Amina's BeneficiationPlus Technology

A revolutionary technology developed by LP Amina to utilize existing coal fired power plants to derive high value liquid hydrocarbons from coal, biomass and waste ash in a fraction of the time and cost of conventional technologies.

TECHNOLOGY OVERVIEW

LP Amina's solution turns a conventional power plant into a multi-purpose facility, capable of producing both power and hydrocarbons. Currently we are developing three technologies in the suite that can be deployed independently or in conjunction.



BeneficiationPlus Technology

Significantly increases the value of low rank coals by stripping off moisture, sulfur and mercury. Increasing carbon content and converting a portion of the volatiles into syntetic fuels.

Polygeneration Technology

A bolt on solution to existing coal fired power plants that will produce both heat for power production and high-value syntetic fuels.

Biomass Utilization

Employs biomass and waste ash as carbon sources to feed the poly-generation technology. This diversification enables switching among feedstocks to optimize returns and carbon footprint.

END PRODUCTS

The technology will provide tremendous benefit to the power and chemical industries by offering a viable, efficient, and less polluting alternative to conventional processes. And produce high value products, including electricity, commodity plastics and fuels.



Electricity



Fuels



Chemicals

TECHNOLOGY DEMONSTRATION

LP Amina is building a demonstration facility in Shanxi province, China which will be operational in Q3 2014.

Groundbreaking design will allow the power plant to co-produce electric power and high value bi-products, increasing revenues and cutting emissions. 50 MWe demonstration facility designed to co-produce 100,000 barrels/year of liquid fuels.



Feedstock processing

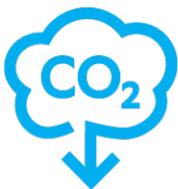
TECHNOLOGY IMPACT

Coal is abundant, low cost and represents the greatest value for power generation for billions of people around the world especially those in developing economies. LP Amina’s technology represents a paradigm shift in the way society will think about coal’s impact on humanity much the same way that Wacker process ushered in the petrochemical industry in the mid 1900’s. Like petrochemicals, coal can be at the center of a wide variety of hydrocarbons which have a global annual market size of \$3 trillion USD.



Transformational Technology

LP Amina’s technology creates a brand new value stream to justify the maintenance and expansion of existing coal infrastructure. This technology breathes new life into aging assets with economic uncertainty associated with the low cost of alternate forms of power production and an increasingly difficult regulatory environment. The evolution of power plants to expand beyond power production to include creation of hydrocarbons is a paradigm shift that must occur and LP Amina’s suite of solutions makes this possible at a fraction of the cost and time.



Reduced Carbon Footprint

With coal historically representing the lowest cost source of carbon, reducing emissions associated with coal’s consumption is the only way to solve the paradox that exists between the cost of coal and its emissions impact. Not only is LP Amina’s solution less emissions intensive, it is low cost with returns that justify investment in emissions control technologies required to bring existing coal fired power plants into regulatory compliance.



Green Jobs

The industry transition brought by LP Amina’s coal conversion technologies is poised to create tens of thousands of high skilled direct and indirect jobs across the entire chemical value chain, including engineering, equipment manufacturing, construction, research and development, logistics, plant operations, and many other fields.



Energy Security & Diversification

Complimenting oil as the basis for the chemical industry significantly reduces dependence on foreign oil and places that dependence on the domestic US coal industry. The benefits to national security are well known and diversification of chemical feedstocks to include coal adds an additional layer of security for industry.

ABOUT LP AMINA

LP Amina is a multinational environmental engineering company with research and development activities in the U.S., Europe and Asia. Established in 2007, LP Amina has over 150 full-time technologists and a network of site technicians working in diverse locations around the globe. LP Amina strives to be the most innovative clean energy development company focused on solutions that will create an environmentally sustainable, affordable energy future.