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Technological innovation: Theme of refining development

Global energy is entering into a transformation period- clean, low-carbon and intelligent. The development of refining industry play a key role for the sustainable development of oil and gas industry, we need to increase the investment to promote technological process to achieve the sustainable development. The technological innovations will focus on the heavy oil processing, clean fuel production and refining and petrochemical integration. With the increasing of heavy oil processing in refineries, we have better understanding of the nature of heavy oil; hydrogenation and decarburization technologies will get new progress. The standards of clean fuel will be stricter; the low cost and high de-sulfurization activity will be the hot spot of catalyst research. Using refining and petrochemical integration to optimize the industrial chain, it will deliver more chemical raw materials and high value-added chemical products. At present, CNPC boasts 28 refinery enterprises; have established 12 large-scaled refinery bases, 7 large-scaled ethylene bases and 3 large-scaled arene production bases. Mission of CNPC is to contribute energy and create harmony and the strategy of CNPC is resources, markets, internationalization and innovation. Keeping the technological innovation, CNPC has some technology progress on the three aspects mentioned above. CNPC's high-end production technology in naphthenic base thickened oil has made a breakthrough in the difficult deep processing of thickened oil all over the world, realized a historical leap in deep processing technology in super-thickened oil within China and constructed a production base for deep processing of thickened oil and naphthenic base products in Karamay Petrochemical Company. CNPC's complete production technology in clean gasoline and diesel oil meeting China's IV/V Standards have become a major technology in oil quality upgrading of CNPC to provide clean oil for pollution control and emission reduction. CNPC's large-scaled complete technology of refining series have broken technological monopoly, CNPC's large-scaled complete ethylene technology has been successfully applied and realized stable operation for more than three years in which has made CNPC become one of the 6 major ethylene patent holders in the world. Looking into future, intelligent refineries will lead the global refining industry into an intelligent age.

Biography

Xu Zhao is the Deputy Director of Market Analysis and Strategy Research Center of Refining and Chemical Industry in CNPC Economics and Technology Research Institute (ETIR). He has completed his Graduation from China University of Petroleum, Beijing, majoring in Chemical Engineering and Technology. He is mainly engaged in oil refining technology research and development strategy research.

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