

The Office of Industrial Economics Raises Thai Hub in Biorefinery Industry to Drive Thailand's Economy and Upgrade Thai Agricultural Industry to Support BCG Model.

The Office of Industrial Economics presented an approach of the biorefinery industry development to upgrade the Thai agricultural industry and drive Thailand's economy following the BCG model of the Thai government. This approach is opening up investment opportunities for entrepreneurs to support the demand in the world market which is forecast to stand at 1.7 trillion USD in the next 10 years.

Director of the Office of Industrial Economics, Mr. Thongchai Chawalitpichaet reported that OIE had started the study of an approach in the biorefinery industry development to upgrade the Thai agricultural industry and is consistent with the concept of 3D economic development, including bioeconomy, circular economy, green economy or BCG model. The government has been encouraging and driving Thailand to stability, wealth and sustainability by aiming for structural and production form changes of production in Thailand's industrial sector by applying agricultural products to be feedstocks, especially important crops to the agriculture sector and farmers' livelihoods such as sugarcanes, cassavas and oil palms. The linkage of production processes, from the upstream, midstream to downstream sectors, is necessary to increase the economic returns in the long run. The concept of biorefinery system that combines the maximizing renewable resources and energy use is the beginning of bioeconomy and circular economy. Besides, this approach can upgrade the Thai agriculture industry from traditional agricultural product processing industry to high-value processing industry and bio-based product production, it can stabilize agricultural product prices in Thailand, increase the farmers' income and improve the quality of life of the farmers. Moreover, it can reduce economic inequality and pollution or environmental problems. Furthermore, it can increase value and industrial competitiveness in Thailand.

The result of this study showed that bioproducts has become Thailand's goal. The highest-potential bioproducts, which should be developed into the biorefinery industry, are as follow: 1) amino acids which are dietary supplements such as threonine, tryptophan and lysine made from plants which store edible starch and sugar like sugarcanes and cassavas and 2) biolubricant which are from oil plants such as oil palms. The second highest-potential bioproducts include biotransformer oil, methyl ester sulfonate (MES) and bio-hydrogenated diesel or green diesel. All the products above, are greatly environmentally friendly and tend to be in high-demand and have both high-growth and price per unit (PPU) of the world market. Here is the government and entrepreneurs' chance to encourage investment or joint venture in the products for commercial purposes.

The value of bioproducts in the world market is expected to expand steadily by 9.41 percent a year between 2018-2030. The value of bioproducts in 2021 was 670,840 million USD, but it is forecast to reach 1,734,510 million USD in 2030. In accordance with the growth of technology markets, the production of the biorefinery industry tends to grow by 10.43 percent a year between 2018-2030.