



Thailand

1 Which bioeconomy-related policy strategies exist?

Bioeconomy development in Thailand is politically driven by the “**Biotechnology Development Policy Framework**” (2012). The framework provides a holistic view of biotechnology as a knowledge-based industry with diverse applications across the medical, agricultural, aquatic, and industrial fields. Bioplastics are specifically fostered as a new biobased industry via the “**National BioPlastics Roadmap**” (2008).

With regard to renewable energies, the Thai government developed the “**Alternative Energy and Development Plan (AEDP)**” 2012–2021 which supports bioenergy and biofuels based on the country’s vast agricultural feedstock, specifically by-products and residues. Biomass accounts for approximately 80 percent of Thailand’s renewable energy, representing over 10 percent of the country’s total energy consumption.

2 Is the term “bioeconomy” or “biobased economy” used in the strategy documents?

Yes

No



3 Who is the author of the strategies?

The National Science Technology and Innovation Policy Office (STI) cooperated with the National Center for Genetic Engineering and Biotechnology (BIOTEC) in formulating the second National Biotechnology Policy Framework which was adopted by the Thai government in 2012 and spans a period of ten years. The National Innovation Agency (NIA)

defined the “BioPlastics Roadmap” which was approved by cabinet in 2008.

The AEDP is developed by the Department of Alternative Energy Development and Efficiency in the Ministry of Energy.

4 What are the key goals of the strategies?

The government is stimulating innovation in and applications of biotechnology in order to make Thailand a center for biotechnology in Asia while transitioning to a more technology and knowledge-based economy. Specifically, the strategy aims at increasing competitiveness by advancing science and technology in areas where Thailand has a comparative advantage and/or strong capacity, such as in agriculture, food processing or plastics production. Furthermore, biotechnology should increase wealth and the quality of life by strengthening economic, social, health and environmental security and promoting lifelong learn-

ing. Biotechnology is also recognized as fostering sustainable development and green growth. Finally, the government also seeks to strengthen autonomy in strategic sectors, such as energy and healthcare.

The Alternative Energy and Development Plan (AEDP) foresees that renewables should cover 25 percent of total energy consumption by 2021. Bioenergy should reduce dependency on foreign oil and decrease greenhouse gas emissions. The AEDP is to be reviewed and developed for the period 2015–2036.



5 What are the priority areas of the strategies?

The National Biotechnology Policy Framework is directed towards strategic innovation planning and seeks to motivate private-sector investment in R&D, technology transfer and application, as well as the development of experts and a qualified workforce (“intellectual capital”). In order to foster technology transfer and foreign direct investment, the government not only supports R&D infrastructure but also grants a mix of investment and tax incentives for innovative biotech projects. The framework targets the central bioeconomy sectors, in particular agriculture and food, medicine and public health, bioenergy and biobased industry. The “National BioPlastics Roadmap” is in the second phase (2011–2015) which focuses on market development and environmental management. Support is provided in the areas of R&D (platform technologies), development of biomass supply chains and investment incentives.

The AEDP strongly encourages the use of biomass, in particular agricultural residues and by-products, for energy generation. The plan also fosters the production of ethanol from home-grown sugar cane and cassava as well as an increase in biodiesel blending mandates from B5 in 2012 to B10 in 2019. The “Biotechnology Policy Framework” highlights in this respect that the expansion of bioenergy and biofuel production must not be in conflict with food production. It therefore promotes R&D in next generation biofuels and the use of alternative feedstock (residues, cellulose, algae). Moreover, by 2021, the government aims to realize a threefold increase in biogas supply above current production. Such growth should be based on available raw materials such as waste generated by livestock farming, agriculture and food processing, and households.

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