Conference: TEDUTRAIN’23 Committee: UNDP Topic: Production of Sustainable Biomass Energy Country: Denmark

Delegation : İpek KANTEMİR, Mehmet Emin Resulzade Anatolian High School

Using affordable and clean energy is one of the most essential targets for today and the future. The biggest factor preventing the world from achieving this goal is fossil fuels. At this point converting fossil fuels into biomass energy is a change that could yield significant results. Compared to fossil fuels biomass energy is more sustainable and environmentally friendly and it plays an important role in reducing the greenhouse effect. Among renewable energy, bioenergy has the of being able to storing and regulating power from intermittent sources.

In 2014 the first report with four recommendations for promoting the development of bioeconomy in the near to long term was published by reports focused on 'green', 'yellow', and 'blue' biomass. In 2016 our government appointed an Advisory Board for A Circular Economy. In 2017 the advisory board published their recommendations. In 2018 strategy for circular economy was launched which contains parts related to biorefining. In 2019 our government agreed on a new Climate Act. We target to reduce gas emissions by 70%, with at least 55% of energy consumption coming from renewables, and focus on renewable energy from wind by 2030. By 2050 we target to reach net zero emissions. In recent years more research and technology development is required to fully integrate green energy. Therefore research funding has been increased.

Denmark is aims to create an energy system by 2050 that is free of fossil energy altogether. The most common types of bioenergy used in Denmark are combustion, biogas, gasification, and liquid biofuels. Converting older coal-fired plants to biomass is part of Denmark's strategy. The biggest conversion to green energy sources is the Studstrup Power Station, which switched from using coal-fired energy to using biomass energy. With this change, Denmark has become a model for other European countries. Also, Denmark investing heavily into Research, Development, and Demonstration for transforming agricultural residues into second-generation bioethanol. All biomass used in Denmark must come from a sustainable way and the way of using biomass has to lead to real CO2 reductions. That is why we also have a great interest in developing CCU technologies.

Denmark's CO2 emissions have fallen by 40% between 1990-2019. Our national plan is to keep consuming the same attitude for a better planet. We advocate biomass energy worldwide through application and experience sharing, international collaboration, and increased efforts towards sustainable energy sources.

*Facts about bioenergy in Denmark*. (n.d.). Energistyrelsen. <https://ens.dk/en/our-responsibilities/bioenergy/facts-about-bioenergy-denmark>

*Experiences with biomass in Denmark*. (n.d.). Welcome to DTU Research Database. <https://orbit.dtu.dk/en/publications/experiences-with-biomass-in-denmark>

*Denmark Country Report status July 2021 - Task42*. (n.d.). Task42 - Biorefining in a Circular Economy. <https://task42.ieabioenergy.com/publications/denmark-country-report-status-july-2021/>

1/12/2023