EBA's position on bio-economy

In a bio-economy scheme food, feed, materials and energy are derived from biomass instead of fossil resources. Biomass is thus an increasingly important raw material in view of a fossil depleted future. Independent of its final destination, biobased products have to be produced and applied in a sustainable way, meaning that they have to fulfil social, economic and environmental criteria. The major drivers for a bio-economy are independence from fossil energy sources and abatement of climate change.

A prominent contribution to the bio-economy is provided by the biogas production industry. Biogas is produced by anaerobic digestion (AD) for the generation of renewable heat, electricity and transport fuel while the nutrients cycle is closed through the use of the second product, digestate, as an organic fertiliser. Due to its high substrate flexibility, biogas is a very resource-efficient fuel that can be produced basically anywhere in Europe creating green jobs in rural areas. As biogas is a storable energy source, it balances the intermittent supply of other renewables such as wind and solar power. In addition, the obtained reduction in greenhouse gas (GHG) emission per unit (kWh) of generated renewable energy is many times larger than that of any other type of renewable energy.

Anaerobic digestion as a biorefinery

AD's direct products, energy and organic fertiliser contribute to several European targets from greenhouse gas emission reduction and energy security (see the biomethane's supply scenarios for the future in 'Figure 2') to circular economy and development of green employment. These numerous benefits are not sufficiently taken into account by European policy-makers. This should be improved by establishing a coherent and consistent policy framework for the biogas industry.
In addition to its natural benefits, there are a number of scenarios on how AD can cooperate with other industries to enhance biobased economy in the short and the long term (see an example under 'Figure 1'):

- Waste management of sectors characterised by high loads of organic residues (e.g. agriculture and food-industry sectors)
- Processing and energetic valorisation of management biomass from terrains (recreation, nature,…), road sides, etc.
- Conversion of methane towards other products to substitute fossil natural gas
- Extraction of chemicals occurring during anaerobic digestion, such as CO_2 and short chain fatty acids, for cooperation with other bioindustries, e.g. biochemicals and liquid biofuels
- Recovery of mineral constituents (phosphor, nitrogen) for application in agro-industry or green chemistry
- Development of integrated crop rotation systems and cascade utilisation
- Combining biogas plants with algae production leading to CO_2 mitigation
- Coupling of AD biorefineries with power to gas scenarios
- (Green) employment related to the entire value chain from supply over operations to refinery and marketing secondary resources derived from AD side streams
- Energy self-sufficient processes; process-integrated energy and pollution control

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Figure 1: Anaerobic digestion in a key position in biorefinery concepts

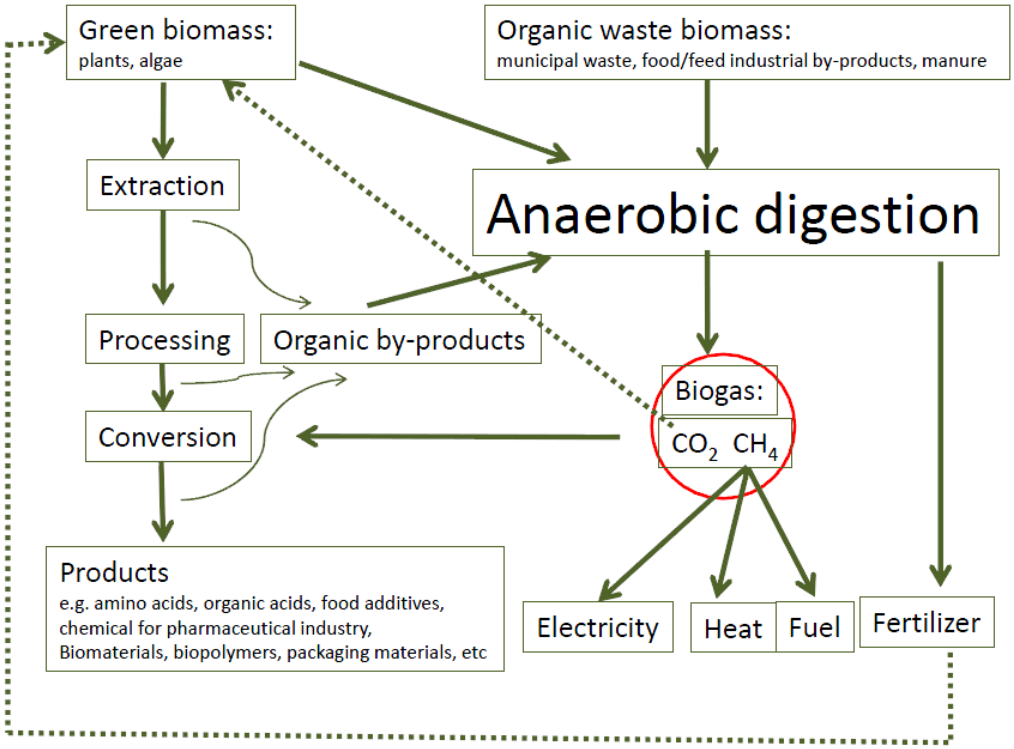
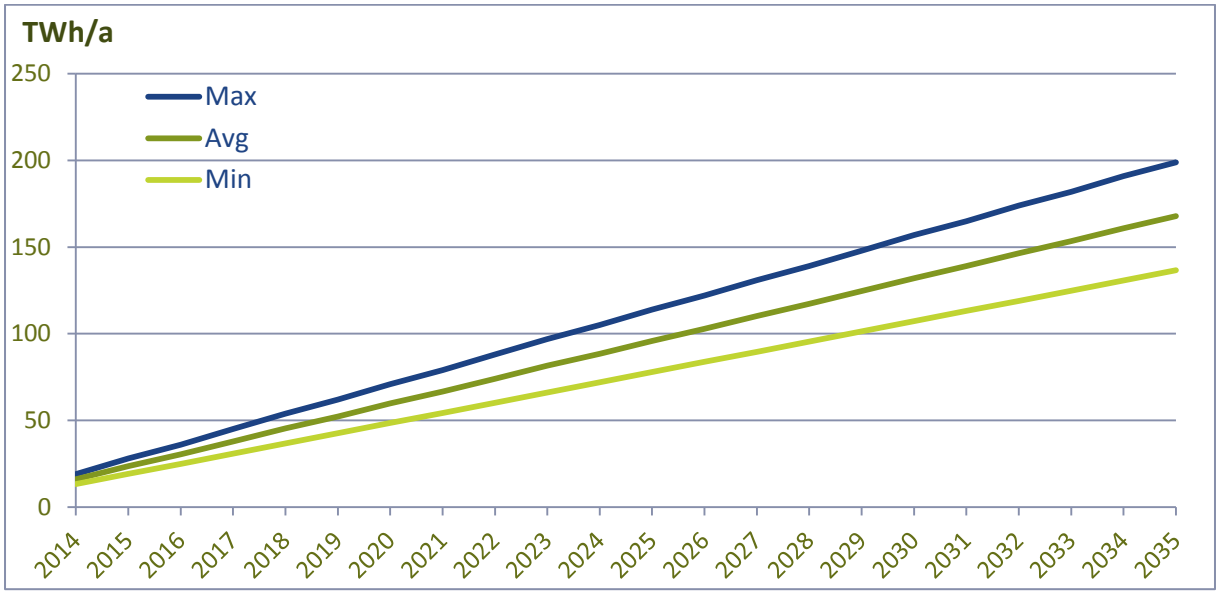


Figure 2: Biomethane (biogas that is upgraded to the quality of natural gas) supply scenarios by 2035.
Source: GreenGasGrids and ENTSO-G



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EBA's key messages for the EU institutions

- The biogas sector is a great example of bio-based industries that produce commercially viable, sustainable and versatile products with a lot of further potential leading to energy self-sufficient production processes.
- Available biomass streams shall be balanced between different bio-based industries. Bioenergy production is complementary to manufacturing of bio-products as the energy needed in the manufacturing process must also be taken into account.
- AD's direct products, energy and biofertiliser, contribute to numerous European targets and have a great potential to replace their fossil counterparts - by 2030 and with the right policies in place, the industry could deliver 2-4% of the EU's electricity needs and take a 15-30% share of the methane market.

➔ Further development and innovation in the field of sustainable bioenergy should definitely be promoted under EU's public-private partnership schemes on research and innovation for biobased industries.

➔ European Biogas Association calls for coherent, harmonised and long-term EU policies on biomass sustainability, waste management, organic fertilisers and renewable energies.

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