Pros and Cons of Biomass

Factsheet 10

Facts and Figures

PROs

Versatility: Biomass can be used in many ways, for example for electricity, heat or mobility. It can also be used structurally in textiles or building materials. Converted into biomethane, it can even be fed into the natural gas grid.

Benefits for the Economy: Especially in rural areas, the production of biomass can strengthen the economy. For farmers in particular, it can generate additional income.

Cost Savings: The production of biomass is much cheaper than the production of fossil fuels, which require high capital investments for example for oil drilling or gas pipelines. Thus, higher profits can be achieved through lower production costs.

CO_2 neutrality: As part of photosynthesis biomass fuels only release as much climate-damaging CO_2 as was bound in the plant during growth.

Reduction of Garbage: Solid waste incineration reduces the amount of waste going to landfill by 60 to 90 per cent and reduces landfill disposal costs and land required for landfill.

Availability: The organic materials that can be used to produce biomass are easily available and renewable, as waste is constantly produced by societies. This also reduces dependence on fossil fuels, which are in limited supply and have a greater environmental impact.

Reliability: The energy that can be generated from biomass is reliable and not dependent on unsteady factors such as wind or sun. As long as biomass is available, electricity can be generated at any time.

CONs

Less energy efficiency: Compared to other fuels like petrol, some biofuels are not quite as efficient, so they are enriched with fossil fuels to improve efficiency.

Possibility of deforestation: Wood is one of the most widely used biomass energy sources. In order to generate the desired energy mass, large amounts of wood as well as other waste products are burnt, creating the risk of deforestation in the future.

Competition for land and space: Biomass is not unlimited in the sense that it requires large areas of land to grow the crops and to grow food. This competition for land can also lead to the displacement of small farmers and the loss of valuable ecosystems. In addition, biomass energy plants also need a lot of space, mainly because of the required storage space, which is hard to find in urban areas. This limits the possibilities for building biomass energy plants.

Environmental pollution: Although biomass is CO_2-neutral, there are still increased emissions of methane gases from the use of animal and human waste. Furthermore, the burning of wood and other natural materials causes pollution just as much as the burning of coal or similar.

Sources:
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https://www.solarreviews.com/blog/biomass-energy-pros-and-cons
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