



as well as minimising the costs. Lastly, and at the time when the demand for bioenergy is increasing, the policy makers should consider and answer back to the influences of this increased arrangement on other areas, for instance on food security and biodiversity [7].

Biomass, or organic material based on plant, is the fourth largest energy resource in the world after oil, coal and gas. Biomass is renewable as well as can be sustainable [10]. Biomass is normally sourced from forests and agricultural residues [10]. Biomass sustainable sources are estimated to supply the world with 10-20% of energy by 2050.

By combusting biomass, Drax produces no net increase in the CO₂ amount in the atmosphere, due to the fact that the biomass consumes and produces similar amounts of CO₂ while growing and combusting. Moreover, biomass has the ability to produce noticeable reduction in CO₂ emissions in relation to coal-fired and gas-fired generation over its life cycle [11,12].

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Drax [13] states that America has a cheaper source of energy represented by the shale gas, hence it is not worthy for the US to depend on wood. However, a curious question for further research concerning sustainability would be 'what about constructions and other wood-based operations in America? Are wood prices going up in the US? Is the Americans wood enough for both a huge power station like Drax, and the country demand? And Is the US economy in danger?' It is also worth saying that, if the wood cuts are not being fed into power stations, they would be combusted, as waste, or left to decay, producing methane and CO₂.

Drax opponents' state that subsidising wood combusting is a waste of money, as well as it does not tackle climate change in the short term [6]. Furthermore, combusting wood is demolishing some of the best forests in America. Then what about the US carbon level? Do the American forests balance CO₂ emissions in the atmosphere; the forests absorb the CO₂ emitted from houses and industries. Therefore, cutting the trees can result in reduction in the US 'carbon sink' [6].

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Different opinions from different perspectives have been stated regarding the issue of using biomass (wood in particular) in producing energy. Debate around the situation in Drax, the biggest power station in the UK, has been examined. Support and funds were and still expected to be provided from different organisations, and even the public. It has been found that although several sources state the negative impact of combusting biomass on the atmosphere, Drax confirms that utilising wood cuts CO₂ emissions by 80% less than combusting coal. However, the US atmosphere is in danger. Granting Drax and co-opinions claim that trees grow, others state that it takes trees long time to substitute what has been cut. In regards to the source sustainability, many positions point out the risk of depending on imported biomass

sources, nonetheless, Drax states that the US has its own source of energy represented by the shale gas.

Most probably is that the issue will become clearer by the year 2016, where the second biomass-based unit will be operating. A clearer idea on the situation will be drawn, and a wiser decision will be made on whether to carry on converting the other units, keeping in mind the political situation between the two countries. Further research regarding the political situation would have enriched and enhanced the paper.

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