



## Topic 5

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With the fast developing world and growing energy consumption the issue of sustainability becomes more and more substantial. New methods of producing energy are developed and the ones that exist are improved in order to reach higher efficiencies. Being student at KTH for more than one year I was taught, that sustainability and environmental technologies are the key factors of future electric energy sector.

As it was previously mentioned, the world is developing on high phase and because of it tremendous environmental problems arises. Greenhouse effect, water contamination and air pollution are just few problems that has to be dealt immediately. Thus in my personal opinion sustainability issues already are extremely important and it will increase to grow in near future. As countries develop and economic welfare increases, people realize that there are much more important things then money, car or huge house. They crave for clean and green environment, beautiful parks where children can play, without being exposed to chemicals that can harm their health. People start to pay more in order to increase their living standards and government authorities will be forced to budget various projects that can guarantee sustainability for their people and their future. Another importance for seeking sustainability is that it can help to cope with climate change, since every year the consequences of climate change are increasing and humanity is almost on verge of permanent damage.

As an engineer I will be able to change that by using technology and methods that can increase sustainability. For instance, by promoting energy sources, such as wind, power and water and by dealing with various technical problems that occurs by implementing those power sources I can contribute to the sustainability in electrical energy sector. Furthermore, by educating people around me I can make them more aware and less confused about necessity of new technologies. Nonetheless, as an engineer I can do whatever is in my power to promote recyclable materials, that has lowest footprint during its lifecycle, which can help to reduce air and water pollution.

During my year at KTH I had one course called Power System and Environment in which we directly had to analyze the impact of particular part of an electrical power system on environment and the knowledge that I got during the time I had to work on projects in

aforementioned course were priceless. Furthermore, in other courses, sustainability issue was as much important as in Power System and Environment course, however, in Power System Analysis, FACTS and HVDC and etc., we dealt more with the technical problems, such as stability, that arise with connection of a huge wind or solar power plant to the network. Even thou, these problems seems not related, but they are crucial in order to have sustainable and functioning electrical power system.

All in all, KTH makes a high contribution to the future sustainability of power system and society by providing courses where students can learn not only dry technical facts, but also teaches to think about the consequences of our decisions.