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Topic#5

Sustainability has already become one of the key aspect looked upon while developing futuristic technology. As an Engineer I strongly believe that majority of the technological advances in the future will be for making our existence in this planet more sustainable. Sustainability is no longer a question of putting fancy gizmos or devices in to our society/environment but it is the question of our very existence in this planet.

As an Electric Power Engineer I wish to work in the area of Grid Integration of Renewable Energy. A major part in Grid Integration of Renewable Energy is developing better converter topologies and developing more efficient semiconductors. I wish to work in these area and contribute towards Sustainability from my side. This will increase my work satisfaction also considering the fact that my work will help in making this world a better place to live in.

The key points the course material conveyed were the following. Nature has limits and we should respect this limits, due to our greed or requirements we should not try to extract from nature more than what nature can replenish. Another important aspect was that our lifestyle has an ecological footprint, this footprint may be sometimes obvious sometimes not. This can be explained through the case of buying a car we rarely think about the amount of energy (mostly fossil fuels) that is spent on the manufacturing of a car. But what we are more aware of the energy consumption of the car in the form of fuel we use for daily transportation. Another important aspect was that like nations companies can also play big role in the sustainable development, this may be more relevant to me personally as an engineer as I am more likely to influence the functioning of a company than national policies. Finally as an engineer one should always try to think of innovative ideas for replacing activities having higher ecological footprint with lesser ones.

I believe the material is trying to make me aware that sustainability is one of the aspect to be also considered while taking my decisions in both my personal and academic life.On a personal level it can be something as simple as using a paper bag to buy groceries compared to the plastic alternative,in academic life it can something like applying my knowledge of power system and power electronics in solving a problem related to grid integration.I believe KTH is making efforts to make students more aware about sustainability.Personally I have been exposed to courses like Power System and Environment (other than EH2220) where a detailed case study and presentation was carried out over the topic of Environmental Impact of Solar Energy. This also consisted of group work where students engaged in group discussion. Also I have taken a course on Wind Power Systems(EG2040) this semester which gives a more wholistic view of wind energy generation.. However I feel still more efforst could be put forward by KTH for example a compettion amoung Electrical Engineering Master students to develop solution for most efficient grid integration of solar panel would be very innovative.This will encourage more students to think critically and develop sustainable solutuions based on their theoretical knowledge.