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THE SUSTAINABLE ELECTRIC POWER ENGINEER : TOPIC 5

In the near future, sustainable development is one of the major issues that is going to determine the rate of progress in engineering as well as manufacturing sectors. Products and solutions that are more sustainable and environmental-friendly will become a priority rather than a luxury. I believe as an engineer I should make it my utmost priority to include sustainable and lasting solutions into the end-products that I will work with. Recently it has come to light that certain car manufacturers had falsified reports just to prove their products complied to environmental standards. In the light of this issue, I believe as a sustainable electric engineer, every engineer must ensure that sustainability should not be a choice, but must be a moral responsibility.

As an engineer, I should aim to envision and manufacture electrical products and solutions which have low ecological footprint and maximum life-cycle. To ensure a sustainable society, as an engineer I should focus more on technological solutions which have lower emissions and better environmental impact. For example, considering the use of regenerative power solutions gives an opportunity to reduce power demand. Regenerative solutions are already being implemented in vehicle and automotive sectors and extending such solutions to power generation (wave and tidal energy) shall be yet another possible sustainable solution. As an engineer, I should aim to explore such opportunity when designing products or solutions.

In the course material, different suggestions are made to ensure sustainability in a entire product life-cycle and these suggestions can be extended to other products and solutions also. In the course material, various case studies of different companies were discussed. I found the solution by ClimateWell really intriguing and on reading more about them found another interesting solutions put forward by a company LOWTE . This course and material has enabled me to think outside the conventional line of thought while focussing on sustainable solutions. I believe that all it takes is just the inspiration to contribute to the environment and society through technological development.

In spite of all the changes in technological advancements, the power sector is still facing major constraints like high power consumption and the inability to effectively integrate such systems with the existing power grids. In the courses that I have taken in the first year of my Masters, I have observed that KTH tries to integrate sustainability in the course structure and also in the projects that they work on. Courses such as Power Systems & Environment and Electric

Transportation has broadened my perspectives on solutions that can be commercial as well sustainable at the same time. KTH collaborates with KIC Inno-Energy which works solely on developing sustainable as well as renewable solutions. I was lucky enough to work with an establishment that developed sustainable solutions for wave energy converters and can proudly say that the courses at KTH has helped me to perform better. Apart from course curriculum, extra activities like Bike Day and Green Campus Day are some of the various initiatives taken by KTH to promote sustainable awareness among the students which have proven successful.