

Assignment-05

The Environment and Sustainable Development

EH2220-The Sustainable Electric power engineer



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Group-D

Sustainability is one of the popular contemporary global talks. The world is focusing on to create the sustainable environment. This will be equally important in my future working area being a member of engineering community. Currently good analysis of environmental impact is carried out in the research outcome of science and technology. This significance can be causing for an individual from the moral obligation to the society or any business point of view which will impact to design the future technology. We must have the responsibility not only to our future generation but also the other elements in the earth. We need to understand the situation how we are affecting the nature for only our comfort. This realization will help us to create a sustainable world

Electric power system engineers have more challenges in the industry which is related to emissions. Power system is a complete network of the electricity generation, transmission and distribution. The environment is affected by the construction and the regular generation of the power plants. The emissions of greenhouse gases by fossil fuel (oil, natural gas, coal) firing power plants are polluting air and main supplier to the global warming. On the other hand, Renewable energy sources like wind, hydro, Solar are not releasing any greenhouse gases to the environment but have environmental impacts on manufacturing solar PV cells, using permanent magnets in wind turbines, building dams for hydro power plants. In addition, water pollution, uses of huge amount of water for cooling, degradation of water quality by discharging process water, land uses, vegetation, and wildlife are affected by various power plants. As a power system engineer my utmost dedication can be shown to develop these environmental friendly future technologies in industry. A Power system is a large network where any small part can affect environment in small scale. This is an open area for engineer to design future technology without affecting environment and that would be the best contribution for the society.

The course material is good enough to motivate on sustainability. It gives basic overview about the role of a citizen to contribute in the development of a sustainable society. We have to act different roles in the society. Sometimes we produce our necessities from nature and consume more than our need. The learning outcomes of this to develop a consciousness as a human being first. At the same time, we should react at our profession on environmental issues. We can apply this knowledge in future at our working field at any scale. Initially to build a sustainable society seems challenging but not impossible at all.

Finally, KTH has provided enough opportunity to learning sustainability. I can tell more precisely on the offered courses in electric power systems. They have addressed the role of a sustainable engineer to analysis the impact of environment through different formal courses like power system environment and wind power system. Besides, different seminars and discussions are organized which can motivate the students to work with sustainability in future.