

Topic # 5

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Sustainable was a rather abstract word for me even if it is often used in the daily life. I do recycling and I buy the ecological vegetables to obtain a rather sustainable life, however even sometimes I failed or forget to do so I actually never think about the consequences. But after looking through this course material, I realized that what we do really matters a lot and it is very important for every responsible citizen to think and live in a sustainable way. Even with very small things such as choosing the means to go to work, we can think about the environmental aspects as well.

As an engineer and especially as a power engineer, “to think and work in a sustainable manner” is even more important. The technology we work with closely related to the energy, the resource of the planet and the construction of our city. What resource will we use to generate electricity, what material will be used to manufacture system equipment, and how will we build the electricity market all influence the sustainability of the society. I think one key point of being sustainable is to “know the limit in advance” and to “always see new opportunities”. Therefore, I think in the future all power engineers should first have a clear understanding of the natural resources status and whenever we are developing any new technology or designing new devices we should prioritize the sustainable issue. It is of course not an easy thing to always put the sustainability in the first place since there are many aspects to be considered, especially economic issues when we actually work in the industry. However, I think it then comes to another important point: the market force. For example, as what we learnt in one course that the system operator can actually encourage renewable generation by introducing CO₂ tax or setting fixed higher prices for green power. And if we have such market force, companies will try to run in a more sustainable way and the employees will then also need to equip themselves to obtain a sustainable working life. To build a sustainable society is actually a global issue which means our actions may affect other parts in the world as well. Take the green power as an example again, sometimes we buy green power but we don't know what happened behind the generated power, since power systems of several countries are interconnected and the renewable generation could cause problems to system operation. Therefore, I think we as power engineer really need to try our best to provide technical support and also help to bring new ideas for setting new regulations in order to build a sustainable power system and society and it also gives ourselves more competitiveness to work in the future industry.

All the major courses we studied here in KTH provide us with necessary knowledge to have the capability of making a difference. We also had courses such as power system and environment and this course that let us have certain consciousness of sustainable issues. Besides, we also study in an open, cooperative and equal environment in KTH, which is also a kind of preparation for us to work with sustainability.