CLIMATE CHANGE-WHAT CAN DO ABOUT IT?

In 2016 FP-AP had a seminar about global warming in Stockholm. This June 2019 there was a follow up about climate change and what one can do about it in Lund in southern Sweden.
In the 19th Century, scientists realized that gases in the atmosphere could cause a "greenhouse effect" which affects the earth's temperature.
At the turn of that century Svante Arrhenius in Sweden calculated that emissions from industries might someday increase temperature up to + 3C.
Ice cores and other proof of climate conditions in the distant past provide evidence that rising atmospheric carbon dioxide levels are associated with rising global temperatures.
Human activities, primarily the burning of fossil fuels and secondarily the clearing of land has increased the concentration of carbon dioxide, methane and other heat-trapping gases in the atmosphere. Since the start of the industrial revolution, the atmospheric carbon dioxide concentration has increased by 50% and is now for the first time in a million years over 400 ppm.
About 80% of the world's energy is currently derived from burning fossil fuels, and carbon dioxide emissions from these sources are growing rapidly. Because excess carbon dioxide persist in the atmosphere for centuries, it will take several decades for concentrations to peak, and then begin to decline even if concerted efforts to reduce emissions are begun immediately. Altering the warming trend will be a long-term process.
The Arctic, a place where any warming trend would be amplified by changes in local absorption of heat as the ice melts, does indeed show signs of rapid warming. A report shows that the amount of sea ice has fallen 8% per decade during the past 30 years and temperatures have increased 3-4 C in some areas in northern Alaska and Siberia.
What can we do about that in a short perspective? Up to 2020 there is no problem for a country like Sweden to reach the goal of forty percentage point reduction of carbon dioxide compared to 1990 according to the scientists. But, in reality it is only about 18% lower than 1990.
A further reduction down to 40% can be done within the current framework of climate politics. No fundamental changes in technology or energy systems are needed. The reduction can be achieved through promoted efficiency and changes to other fuels. One can think of distant heating systems in the cities, use of bioenergy and renewable electricity as wind and sun.
It is important to supplement the current economic system with a more protracted and evolutionary system.
Production of steel and cement are the big producers of dioxide.
Now research are trying to produce steel without using coal and if it succeeds it would make a big difference to regular steel production.
The same is true for cement production even if the reduction of dioxide probably will be smaller.
These types of reductions can be done and it is necessary to choose winners when it comes to new technical solutions for the transport sector. Scenarios and future plans are important tools to increase the knowledge about the adaptation to zero emission. During a period of 30-50 years norms and conducts will change in the society. The social motivation for these changes is important for a smooth change to a carbon free society.
How do you convince people in a small country like Denmark for instance if they only contribute 0.1% of the pollution and dioxide emission in the world? Technology makes it possible to make the reduction but how do you convince people. That is the big question!
Another big question is the population growth but that requires another seminar.

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