

To: York Campus Advisory Board

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Title of Project: 37th USA/IAEE North American Conference on

Energy Transitions in the 21st Century

I attended the 37th USA/IAEE North American Conference on Energy Transitions in the 21st Century held in Denver Colorado, November 3 to 6, 2019. I saw presentations on the following topics:

* Global impacts of growing US energy exports
* How are energy markets responding to the shift of U.S. energy policy?
* Pathways to decarbonization of energy and the economy
* Energy implications of environmental regulations: future and impact
* What next for electricity storage technologies?
* Drivers and challenges for accelerated electric and autonomous vehicle adoption
* Effective policies to support growth in low-carbon energy
* The role of natural gas in the energy transition to a low-carbon world

My takeaway from the conference was there is a considerable effort to minimize carbon emission. It was interesting to see trends in the power generation and transportation industry.

Due to the lower fuel cost and carbon emission power plants are switching over from coal to natural gas. There is little hope for new large-scale power plants. However, we may be seeing mini nuclear generating facilities built instead. There have been large reductions in carbon emissions in the power generation. Meanwhile the carbon emissions in the transportation industry has offset the reductions from the power industry. Thus, the push for electric vehicles. It was interesting to see the results from studies being done on electric tractor-trailers. It appears that in the future we will be seeing electric replacing diesel powered tractor trailers. Now I can give my students in Thermodynamics more up to date information on the industrial trends. Thus, helping them to focus on what they might expect when they graduate.