My Personal Story in Load Forecasting at Austin Energy in the 1970s.

When I graduated in electrical engineering from the University of Texas at Arlington in 1970 I was hired by Emmet Rummel at Austin Energy to do substation engineering. When Emmet was put over a newly created planning group I followed him into planning. I did load forecasting and recall clearly we planned for 102 F and 20 F to be the maximum and minimum temperatures. We designed enough generation, transmission, and distribution to provide 100% reliable service at those temperatures. We expected the gas supply could be cut off at the lowest temperatures and we sometimes burned oil at our largest power plants. Homeowners with gas heating were the most critical users of gas and they still are. Climate change never entered into our planning. In 2000 Konrad Steffen at the University of Colorado discovered Greenland's ice melting was accelerating. By 2005 it was clear the ice loss in Greenland began in the mid-1990s coincident with a large buildup in coal burning power plants. Sadly, Konrad died last year while doing research in Greenland. In 2011 Austin had a record high temperature of 112 F. Now we see a record high temperature of 116 F in Portland, Oregon and western Canada. Austin had a record setting cold spell in February. It's now clear that climate change is causing hot and cold temperatures that are deadly, and our electric power systems across the US are not prepared for these extremes. It's entirely possible Austin could have had the 116 F heat wave this summer and might still have one. If we did, there would be rolling power outages and people would be dying, just as they did in the winter cold here. Folks, we are in a period of trying to keep ourselves alive in these hot and cold periods. I'm afraid it's just going to get worse with each passing year as we continue to burn fossil fuels. We must switch to electric transportation and off fossil fuels as rapidly as possible while maintaining a reliable electric grid. This means we need to be planning ahead and not relying on a gas powered market to save us. We need more power lines, more solar plants, more solar at homes, more wind power, more battery storage, more homeowner backup power supplies at their homes, and we need new fail safe nuclear power plants. We're not going to survive if we think all of this transition can be accomplished just using renewables. We should not expect the gas supply to be 100% reliable as we make the transition off fossil fuels as quickly as possible.

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