

Crocker Wind Farm, LLC, Docket No. EL 17-055

Exhibit A10-2 (Morris)

Study references relating to wind farms and crop yield

Rajewski, D. A., et. al., 2013: Crop Wind Energy Experiment (CWEX): Observations of surface-layer, boundary layer, and mesoscale interactions with a wind farm. Bull. Amer. Meteor. Soc., 94, 655–672. Available at <https://journals.ametsoc.org/doi/10.1175/BAMS-D-11-00240.1>

This study was cited by Mr. Morris during testimony and provides a summary of the observational study done in also increased carbon dioxide availability in the crop layer.

Slawsky, L. M., Zhou, L., Roy, S. B., Xia, G., Vuille, M., & Harris, R. A. (2015). Observed thermal impacts of wind farms over northern Illinois. Sensors, 15(7), 14981-15005. Available at <http://www.mdpi.com/1424-8220/15/7/14981/htm>

This is a follow-on study that used satellite and model data to determine if the effects seen in the CWEX study can be observed elsewhere. A warming effect similar in magnitude to that observed at CWEX was detected from satellite data, confirming the observational study and enhancing confidence in the theory that mixing of the atmosphere by the rotating blades is the cause of the warming.

Kaffine, D. T. (2018). Microclimate effects of wind farms on local crop yields. Available at <http://spot.colorado.edu/~daka9342/WindCrops.pdf>

This is a study based on econometrics, showing that areas with high wind development have also seen increases in crop prices not explained by general market trends. It is postulated that a combination of microclimate effects and increased income from lease payments going to ag inputs leading to improved yields.