

Comments for NCUC: Docket E-100 Sub 179

November 2, 2022

The Carbon Plan Duke Energy Did Not Include

The NCUC issued an Order on Oct. 21, 2022 in which it declined to reopen the Record to consider a report prepared by the National Renewable Energy Laboratory (NREL) titled "Duke Energy Carbon-Free Resource Integration Study". (Report). In the first paragraph of the Order, the NCUC refers to a "late-filed exhibit."

In fact, a request to consider a March 2022 summary version of the Report was filed with the NCUC as a consumer statement on Aug. 8, 2022. The text of that filing follows:

Comments for NCUC: Docket E-100 Sub 179

August 8, 2022

The Carbon Plan Duke Energy Did Not Include

The carbon plan that Duke Energy did not include in its May 2022 filing was apparently developed under a work arrangement with the National Renewable Energy Laboratory (NREL). The plan includes the following electricity generation resources (in GW) by 2030 which provide a 70% reduction in carbon dioxide emissions (relative to 2005) by 2030:

Solar	18.3
(On)shore wind	1.7
Battery storage	4.5
Pumped hydro	2.1
Coal retirements	-1.924

Other sources such as CT, CC, and nuclear remain the same through 2030.

One major advantage of this plan (the NREL plan), relative to Plan 1, results from the fact that it does not include offshore wind. The permitting process for offshore wind and the shore-to-land transmission add considerable risk to time-to-completion of Duke Energy's Plan 1.

Comparing just the solar component, we find Plan 1 calls for 5.4 GW of new solar which, when added to the existing 4.35 GW of solar, would provide a total of 9.75 GW of solar by 2030. The NREL plan calls for 18.3 GW of solar, roughly twice the amount.

The NREL plan comes from the attached document, Duke Energy Carbon-Free Resource Integration Study: Summary of Study Results (see especially slide 13); the document may be found at the following website: <https://www.nrel.gov/grid/carbon-free-integration-study.html>.

Duke Energy may have good reasons for not including this plan among their options and, if so, it would help if they explained its defects.

I urge the NCUC to assess whether the NREL plan is a viable and attractive option for Duke Energy to meet its 2030 commitment. Recall that the average temperature on Earth is correlated with the *total amount* of carbon dioxide in the atmosphere; therefore, reducing those emissions as rapidly as possible is critically important.

Stephen Jurovics, Ph.D.
Advisory Committee, NCIPL
Author of *Hospitable Planet: Faith, Action, and Climate Change*
<https://hospitableplanet.com>

Thus, the Report in summary form is *already* a part of the Record, including essentially the same findings as are contained in the final Report.

I urge the NCUC to weigh heavily the carbon reduction plan described in the summary of the Report submitted as an attachment on Aug. 8, 2022 and also available online here: <https://www.nrel.gov/docs/fy22osti/82387.pdf>. An initial review of that plan suggests that it complies with North Carolina law (HB 951) more closely than the four plans submitted by Duke Energy.

The merits of the NREL plan include: (1) No additional gas needed through 2030; (2) The gas added to the plan in 2032 and 2034 (see slide 13 of the summary) would not necessarily be methane, but could be hydrogen or biogas resulting in zero carbon emissions. (See slide 18); (3) No need for offshore wind through 2030 (see slide 40 of the summary).

I urge that the NCUC carefully examine the summary of the NREL Report placed into the record as an attachment to a consumer statement on Aug. 8, 2022.

Stephen Jurovics, Ph.D.
4826 Rembert Drive
Raleigh, NC 27612
Advisory Committee, NCIPL
Author of *Hospitable Planet: Faith, Action, and Climate Change*
<https://hospitableplanet.com>